



AMERICAN FARMERS' MAGAZINE.

VOL. XII.—NEW SERIES; VOL. 2.

JANUARY, 1859.

WHOLE No. 133.—No. 1.

NEW YEARS—THE PAST AND THE FUTURE.

WE have just passed through a year replete with the blessings of a benignant Providence, but hard for the producing classes—made so by our own errors. The mechanic has fallen short of full employment; and the farmer has failed of remunerating prices. We have consumed too much of foreign manufactures, and too little of the home-wrought. The effect has been, to throw our own mechanics out of employment, to check immigration, and to stint the farmer in his price.

What our immediate future is to be, is hard to conjecture. A revenue tariff adequate to the wants of the government, discriminating in favor of such articles as can now be had vantageously manufactured in this country, would unquestionably give employment to American mechanics, encourage immigration, and greatly increase the home consumption of farm produce. But whether such an arrangement will be adopted by the congress now in session, cannot, of course be yet known. Our expectation is, that without a change of policy, in favor of American industry, we must see worse times, before we

shall see better. If we pay the money for our iron, wool and woolens to the foreign manufacturer, it will not go to our own mechanics, nor soon find its way around to our own farmers.

But it is not our purpose to discuss political questions. Let us hope for the best from the government, and be especially attentive to our own duties. Industrious habits, a reasonable economy in personal and family expenses, and a little patient waiting, will bring us and our readers to better times.

Many of them, we presume, have realized less for their last year's work than they expected. For ourselves, we have not been overpaid, but then we did not expect it, and so are not disappointed. What we have been able to do for the improvement of agriculture, we have done with a good will. Our sympathies are, and will be, with the farmer. His is the most important, the most useful, and we believe the most desirable of employments, all things considered.

Friends on the farm, we rather envy you—do not mean to be wickedly envious, for that is a bad feeling, which

we ought not to indulge—but when we think of you, on your own acres, a little separated from your neighbors, but not so far as to be necessarily unsocial, having your children around you, better situated for withholding them from vicious courses than any others, and having better hopes than others, that they will grow up, to be considerate, pure and useful, sound in body and mind, men and women to be respected and loved, we cannot but feel that you have abundant reason to be satisfied with your lot. Your business we know has

its vexations, but so have all others. The chances of trade might sooner make you very rich, but your business can not as soon make you poor. It is safe. In the long run it is good. The merchant has much to fear; you have little. The man in public life is every body's servant; you are independent. In wishing you, as we heartily do, "a happy new year," we have more confidence that our wish will be realized by you and your household, than if wishing well to any other class.

FALL PLOWING.

BY WM. BACON.

THE diversity of opinion with regard to fallowing lands in autumn and over winter, appears at the present time to be much less than in the practice. We have lately enquired of several what benefit they found in the operation. None, they say, only it advances spring work.

That real injury, beyond the cost of plowing, does follow, no one who carefully observes can doubt, from the fact, that the more finely a soil is pulverized the better it is adapted to the growth of plants. Now, let a field be plowed in autumn and be bare through the winter, and how much of the very finest and best soil will be blown off before seed time in spring? We have, after ordinary winters, seen this fine earth lying so thick on the snow in roads passing by such fields that it might easily be taken up by handfuls, and where fields were so located that there could be no mistake where the dirt came from, we have seen snow deeply discolored by it a fourth of a mile from the fields.

Now, that the loss of this fine soil,

even in small quantities, is a serious injury to the land there can be no mistake, for it is the very soil for roots to traverse and luxuriate upon. It should be carefully saved. "It saves time next spring." We fully believe in economising time, for it is the wealth and comfort of life. *But*, upon this principle, a man may as well empty his plaster or his ashes for a high wind to blow over his field, because "it saves time." Ah! and saves it, like fall plowing, at a great sacrifice of the interests of the farm.

We resolve the matter in this point: a man can get in more sowed crops, if his land is plowed in the fall, and sowed crops always are in market of easy transportation. Many farmers think the true idea of farming is to get the most money in the shortest time. They sacrifice their farms to do so; raise crops to the exhaustion of the soil to do so, when, if they consulted their true interest, the object would be to improve rather than exhaust their lands, even at the expense of present profit.

Another argument. "Corn land should be plowed in fall to kill the worms." We have tried it, and we therefore know. To secure a good crop of corn we would not have our land plowed in autumn if it would be well done for nothing. Nor would we do it in early spring, "when the frost is out just enough to plow sward land." It has been our successful practice for many years to plow our sward land for corn just long enough before planting to harrow it thoroughly. When those who have plowed in autumn "to kill the worms" have had their corn destroyed by them we have escaped their ravages. We attribute this cause: When we plow, the roots of the grass become pretty well started. They are young and tender, and the worms love them and let our corn alone.

We get another advantage by saving the heat in the fermentation of the turf, and a good bottom heat it is.

In agriculture, more than in anything else, (for it is the bread and butter as well as the meat of the world), whatever is done should be done well, with special reference to the future as well as present profit. Of course, then, no more land should be tilled than can be done in a proper season and proper way.

Remarks.—We know the writer of the above to be a successful farmer as well as a good writer, but we cannot quite agree with all he has here advanced. Much, we believe, is gained by the plowing of stiff soils in autumn, that the frosts may act upon the upturned sods; while we believe with this writer, that light soils may better be let alone till spring.

We never supposed that fall plowing would kill the worms entirely, but we have believed, and do still, that in most winters, (much depends upon the character of the winter,) it greatly diminishes their number.

AGRICULTURE—ITS REQUISITES AND ITS RESOURCES.

WHATEVER low views of Agriculture, as a calling, are afloat in the community, arise generally either from attributing to it unpleasant features, which do not necessarily belong to it, or from stripping it of pleasant features, which are its peculiar rights.

I have heard blacksmiths swear when the iron burnt, and shoemakers when the end broke; I have seen carpenters drunk when they ought to have been sober, and manufacturers terribly impatient when a wheel got out of gear; but I never supposed that impatience and intemperance and profanity were necessarily connected with those employments. So I have seen the farmer, who was dull, dronish, ignorant—didn't know enough to want to know more—

had no good taste about his buildings, fences, and grounds—would live behind a door-yard fence, not fit for the further end of a sheep pasture—cared little if his wife and daughters had not a new dress once in three years—felt it to be a misfortune if his children showed a desire to learn more than he had, and liked old fashions better than new.

But it never occurred to me that the fault was in the man's business. I thought it was in himself. I think that if he had been a minister he would have preached his grandfather's sermons. If he had been a lawyer and had got a case into court, I can hardly suppose he would ever have got it out again. And if he had been a doctor, I do not know what would have become of the

patients. If he had been a manufacturer he would not have made anything but blunders, and perhaps would not have had life enough to make them. I should as soon think of blaming the doctrines of the Redeemer, because very wicked men profess them, as to think of blaming agriculture because a few such men call themselves farmers. I verily believe that agriculture, as a calling, has suffered more from the delinquencies of a few men, who never ought to have had more land than enough to be buried on, than the Church has by all the rascality that has ever crawled into it. We are apt to judge indiscriminately. When we pass the premises of a thriftless, slovenly, tasteless farmer—it must be confessed that there are such—we ought not to blame the calling, but to shake off the dust, as against a man who disgraces a profession which he ought to honor.

Not only has agriculture suffered from heedlessly attributing to it the unthriftness, the tastelessness, and the shameful dereliction of some who have hung upon its skirts for half a living, but it has suffered greatly in this country, and is likely to suffer still more from a state of things, which once existed among us, but has now measurably gone by. I mean the want of a market for its produce, and consequent low prices. Think of ten cents for a pound of butter, and fifty cents for a yard of India cotton, hardly worth bringing home—five pounds of butter, fit for an alderman, for one yard of slazy stuff that the wind would blow away. Think of six pounds of as fine veal as ever went to market for a single pound of nails made of John Bull's worst iron. Think of twelve pounds of

roast beef for an English door-lock that would make a rogue laugh and an honest man cry. And yet all this was within my recollection and that of many who now live.

You would see a good farmer, who had killed the fatted calf, and his wife had done up some nice rolls of butter, and his children had gathered up a few dozen fresh eggs, going off twelve, fifteen, twenty miles to market, starting perhaps before day-break, to have his things to offer in good time and in good order; and then you would see him peddling them all day; and towards night some heedless clerk would say to a thoughtless companion, there goes that old "plough-jogger," wonder if he has not sold out his cargo yet; and then the poor man would make his long way home, and his wife and children would find, on enquiry, that he had brought back half that he carried, none the better for being sunned and jolted, and that for the rest he had brought home three yards of India cotton, two pounds of miserable nails, and possibly coarse calico enough to make a little girl's pinafore.

This was the result of dependence on foreign manufacturers. It had been the policy of the British government to let us raise the produce and eat it ourselves; while the English manufacturer made our clothes, and the English farmer fed him. The American farmer had not the privilege of feeding the manufacturer who was at work for him, and consequently had no market for his produce. Such had been the effect of British rule, and it must be remembered that so far as regards the protection of American industry we lived under the Georges nearly half a century after we became a free people; and with regard

to protection for the farmer we are hardly out from under the Georges yet. Like politicians, who get so used to lying before an election that they cannot very well stop after it is over, we had become so accustomed to a foreign vassalage that we could not throw off the yoke, even after we had long talked about being independent. But we are coming out from under the Georges. The history and present state of American agriculture affords a striking illustration of what agriculture must be when disengaged from manufactures, and of what it may be when joined with them. In one case the farmer offers veal fine enough to tempt the palate of a lord mayor, and is almost hooted for presuming to ask three cents a pound for it ; in the other the butcher comes to his door and gives ten dollars for his fat calf. In the former, India cotton at fifty cents a yard, or pot-metal nails at seventeen cents a pound, would be quite good enough for pay ; in the latter, nothing but cash would be looked at. Protection to home manufactures is protection to the farmer. It calls half of the labor from the plough to the anvil and the loom, and in doing so it creates a market for what can be grown by those still holding to the plough ; and although our government has yet discharged but half its duty to the farmer—has pursued a policy essentially British, not American—yet foreign emigrants have rushed in to supply the deficiency, and the cultivators of the soil are no longer driven to the alternative of consuming all they can raise, or of seeing it perish on their hands.

It is no wonder that, under the old order of things, the farmers became rather a dull sort of men ;—they had

not encouragement enough to keep more than a breath of life in any one. Their business, as compared with other branches of industry, was overdone. Their products went “a begging.” A sort of stigma necessarily fell on their profession. It was of no use to clear up their swamps, to enrich their uplands, to make the barren places productive ; for the produce would bring nothing. What could they have done better than to wag along as they did ? I rather wonder that they did not lie down in the furrow and not wag at all. And then, after avenues to other branches of industry were opened, under the influence of our early tariffs, a rush was made into them by the most enterprising of the farmer’s sons ; and all this time golden promises were alluring another portion of our most stirring, active young men to the western prairies. This accounts for the fact that those remaining on New England farms have not been quite as wakeful under the new state of things as they should have been. It is long since you had to give a bushel of corn for a yard of slimy cotton, made in the hand looms of the Indian girls ; long since you gave six pounds of veal for a pound of rusty nails ; long since you paid eight or ten pounds of butter for a door-lock that did not believe in human depravity. For your bushel of corn you now get ten or twelve yards of cotton that is worth having ; for your six pounds of veal you can get a door-lock that will almost defy human depravity ; and for your eight or ten pounds of butter you can procure a child’s tuition at a good school for a whole quarter. And yet some farmers keep on complaining, as if they had got into the habit of it and could not stop. Fifty years ago how

could the farmer avail himself of those pleasant features with which agriculture ought to be accompanied? Think of the prices of what he sold as compared with those he had to buy. Wages were then almost as high as now. Manufactured articles were higher. Produce was ruinously low. He could indeed build a great shell of a house, because lumber was plenty, and he could do most of the labor himself, but he could not finish and furnish it neatly as prices then were. He could not bring home things nice and comfortable for his family. He could hardly wear a fine coat. Indeed he could not have worn any, if his wife and daughters had not put to and spun and wove it for him, at the same time they were boiling the pot and making cheese to sell for four or five cents a pound. I believe it was the rule then for a farmer's wife to make one silk dress last a lifetime, and then bequeath it to her eldest daughter. No wonder the girls used to say, "I'll not marry a farmer;" though I do not see how they could well find anybody else, for nearly all were farmers then. It was a matter of necessity that the farmer's family should live in an exceedingly plain way, hardly comfortable. Now it is otherwise. Most farmers can, and many do, live in a style of rural elegance, and none have a better right. They are not apt to run into foolish expenses, and it is well that they are not. They are not apt to be boastful. You do not hear the enterprizing farmer call himself a country gentleman, but he is such, and the time is not far distant when *country gentleman* will set quite as gracefully on the intelligent farmer as city gentleman on the metropolitan merchant. Neither do you hear them calling their homes *country seats*, but already

many of them are as deserving of this appellation as any others.

The truth is, agriculture, strip of its false attachments, such as spring from unworthy members of the profession, and others which have come down from a bye-gone age, and especially if clothed in its own rights, in those rural tastes and elegances, which appropriately belong to it, is a noble calling. I do not depreciate other professions. They are all well, if well followed. Agriculture, manufactures, and commerce must go together. Agriculture is the first and the most important—is the foundation of the whole—but it cannot thrive without the others. It must stand side by side with manufactures and commerce, with theology, law and medicine, with the instruction of youth and with the mechanic arts. I do not wish that all should be farmers. That would be going back to the old order of things, in which there would be none to buy the farmer's produce, the very condition in which agriculture in our country languished more than a hundred years, and became disreputable, so far as so important a calling ever can become disreputable. I do not wish that all farmer's sons even should be farmers. The farm, of all places, is the very place to raise men for all professions.

By a law of society, as inexorable as it is flattering to this profession, farmers are destined to be the fathers, and farmer's wives to be the mothers of nearly all the future doctors, lawyers, clergymen, teachers, statesmen, judges, governors, presidents, military commanders, energetic manufacturers, and wealthy merchants. You cannot grow men fit for those high places, except on the farm. All other professions have to be recruited from this. If they were not so recruited

they would run out. They cannot perpetuate themselves. Where would be our merchant princes a few years hence if there were no boys growing up in habits of industry, economy, and indomitable energy in the farm-house?

There must be a division of labor ;—some must work in the Senate, some in the pulpit, some in the college, academy, and school, some in the factory, others in the counting-room, and many on the farm. It would be selfish if the farmer should insist upon all his sons following his profession. Had Daniel Webster's father acted on this principle we should have had no Daniel Webster in the Senate ; and had Washington's mother acted thus we should have had no Washington to be first in war and first in peace and first in the hearts of his countrymen. The farm must grow the cattle and the sheep, and, with few exceptions, the *men* for high places.

All professions, that meet the wants of a growing civilization and a pure christianity, should be regarded as industrial professions. The minister, the doctor, the teacher, ought to be, and they generally are, as industrious as the wheat-grower, the cotton-spinner, and the pin-maker. How many shoemakers and tailors are more industrious than were Daniel Webster, Henry Clay, and John C. Calhoun, or than are thousands who now live and are imitators of those great men ? None perhaps are better supplying the real wants of the present and of a coming age. I know of no profession in this country, except that of the loafer, which is not industrial. All are well ; and he is the best citizen who magnifies his office, whether it be to preach righteousness, to interpret law, to heal sickness, to enlighten ignorance, to spin cotton, to make ladies' shoes, to shoe

horses, or head pins. In the tendency of the professions to elevate or depress the man there is a difference. Agriculture is a good employment in which to go the up-hill of life, and it is the best of all in which to go the down-hill to a peaceful and happy end. Many a weary denizen of the city, disgusted with tumult and show and hypocritical pretence ; many a wiley office-holder, loathing his own crookedness ; many in all the higher walks of life, are this moment sighing for the farm, the very position in which most of them were born, and which a majority are sorry they ever left. It affords a most graceful retirement to an ex-president when he has lost the votes of the people, and to the ex-tailor when he has lost his eyes. To men of every profession, when a little past their earlier activity, who very rationally seek to prolong their usefulness by a life less intensely active, what allurements does rural industry present.

But I must say something to do away with those false impressions and wrong judgments already alluded to. There are men and women, outside of agricultural life, I would not say gentlemen and ladies, but men and women, not the most sensible, not those whose opinions are worth most, who sneer at the farmer and his calling ; and it is true that for reasons growing partly out of our history, and not wholly attributable to the present age, the farmer does not duly estimate his own calling. This is wrong ; for it is hard to succeed in a profession, which one does not in his very heart honor. What the empty-headed and the heartless think, is of little consequence ; but it is all-important that the farmer should know his own calling. If intelligent, as he may be, for there is no need that the farmer should be ignorant, he

may assume as much dignity, and go as well panoplied in self-respect as any other man.

Thus it is, that the Non-permission of American Manufactures, while we were under a Nursing mother over water; the Non-protection of American industry for the first thirty years of our national existance, and the unsteady, fluctuating, and, perhaps, inadequate protection of the last thirty or forty years, has engendered in the public a wrong estimate of things. During the last century and the early part of this, England was enriched by our trade ; the Boston, New York, and Philadelphia merchants got a prodigious profit on the goods that came through their hands ; the country merchant did likewise ; and the farmer paid a prodigious amount of produce, grown without the best implements and in a hard way, for a *prodigiously* small value of India cotton that wouldnt stay on his back. English door-locks that wouldnt keep out rogues, nor always let the master in, when he wanted to enter his own house, and other things, which cost more than they were worth. All this had a depressing influence on agriculture. The farmer lacked the stimulents to draw out his energy, and enterprise. A house without paint and with a stone wall or a worm fence in front, with the pig trough in the street, hard by the entrance, seemed about the right thing for a farmer. These remarks apply more especially to these portions of the country, whence there was no great agricultural staple to export. Others learned to look upon the farmer as a sort of a drudge, who worked hard without getting much ; and what is worse, he lost that self-res-

pect and esteem for his profession, which are necessary to enterprise and success. Now, it is otherwise ; but great bodies move slowly ; changes in the masses require time ; with too many, opinions formed in one state of things, are held fast to under a very different state of things. Hence it is, that agriculture has not to this day out grown the depressing influences of the past ; and though the most honorable of all employments, is not honored in all circles as it ought to be. Fifty years ago, a bushel of corn was grown with twice the exertion of human muscle now required ; an acre of wheat was harvested at three times the cost of human effort ; and many things are now done on the farm with four times less exhaustion of the human frame than they were then, and often done better, and with more profitable results. Improved machinery, better implements, better methods, the working of the brain more, and of the muscles less, the following out of better devised plans, and other improvements, which we see slowly but surely advancing, will not only make the land more productive, but will inevitably elevate the condition of the farmer, give him a just self-respect, and secure for him his well deserved position and influence in society. Some will hold back, ridicule every effort for their improvement, and scoff at the idea of all things not continuing as they were. But the good time is coming, and it will come in spite of them, when to own a farm, to cultivate it well, to maintain on it a modest, but comfortable and tasteful home, and to rear a family of worth, purity and refinement, will be honorable in every body's estimation.

M. S.

SUGGESTIONS FOR THE SEASON.

JANUARY, with its frosts and snows, its rest from farm labor, its long evenings and cheerful firesides, is here. It is in some respects the pleasantest month in the year. The labors of the past season are over. Those of the next have not yet commenced. The farmer has more leisure for settling up old accounts, enjoying his social nature with his friends, informing his mind with books, and studying his business with reference to future action, than in any other month. He may not have made as much the past year as he hoped. Prices have favored the buyer rather than the seller of his produce, but with the health usual at this season, with his children at a good school, with plenty of food for his household, and with his barns full, he is a happy man, if he only knew it, at least, ought to be happy, grateful to the Giver of all good, and contented with his lot.

The good farmer who has provided for his own, if a good man, as well as good in his calling, will now cast about him, and see what he can do by his counsel, encouragement, and, if need be, assistance, to promote the prosperity and happiness of others. He will find that not all children are as warmly clad, on their way to the school, as his, and not all families have as plentiful stores as his home affords. In country and city there is play at this pinching season for the sweet charities, that begin, but do not end, at home. The family is indeed a heaven-appointed institution; it is more important than all others; and "he that provides not for his own is worse than an infidel." To be loving and kind at home is not mean and selfish, but there is a

brotherhood outside of home. It embraces the whole human family; and to a generous mind, the aiding of a fellow being in want, and especially of a poor neighbor, will afford more pleasure than the parting with a trifle, even of what is hardly earned, will cause pain.

But we must remember that good husbandry, rather than other considerations, even the highest, is what we are to teach in these pages, and that the farmers' work is never all done. Some things are to be looked to in cold January. Your thrift depends almost as much upon the judicious expenditure of crops, as upon the successful growing of them. Thirty hundred of hay to the acre, if fed out discreetly, will produce as good results at the end of the year, as forty hundred, if thrown out at random; and sixty bushels of corn to the acre, will go as far to produce thrift, in the hands of some feeders, as eighty in the hands of others. Regularity of feeding, both in time and quantity, always giving animals their food at about the time you have trained them to expect it; giving enough, but no surplus to be wasted; giving it with a pleasant word, and not with a spiteful kick, causing the horse and the ox not only to know their owner but to love him; keeping the inmates of the stalls and the pens so comfortable and contented, as to derive the greatest amount of growth from their food; attending to the watering and the salt, are all quite as important in proportion to the cost, as the growing of great crops.

Be cautious of giving smutty hay to horses. The good farmer will hardly have such in his barn, but if he has it, he may better feed it to any thing else

than horses, and in case of its being given, it is of some advantage to moisten it with water, as the smoke arising from it may better be consumed in the stomach than inhaled into the lungs of the animal. No animal delights more in pure air than the horse, and none suffers more from the want of it. Let his stall be cleaned daily; and let it be warm, but not so close as to prevent a pretty frequent change of air. The floor should by all means be double, and so laid as to break joint, and even with that care, the barn should be banked up, that the wind may not force itself in from below.

Feed bright, early cut hay to milch cows, and add a few roots or some Indian meal. The roots will make more milk, but the corn meal will make milk of a better quality. Rye, or oat meal will cause a fuller flow of milk than either, but the oats are generally wanted for the horses; and few farmers, we believe, regard it as good policy to grow rye much for their stock. Cattle and sheep, that are in process of fatten-
ing, should also have the best of hay. Stock cattle may be turned off with whatever poor, second or third rate forage you have, but they never should be confined to this, not even for a single day. Give each day, if the main part of their food is of a poor quality, a little corn meal, a few roots, or, in the want of these, a little fine early cut hay. Young stock, farrow cows and working oxen, if not in hard service at the time, will thrive on poorish food, if they have a little every day that is choice. Note carefully the effects of different modes of feeding, and you will soon acquire a skill in the business, which not all the precepts in the world can give. Let nothing be wasted. If

you have not water in your yard, let this be the last winter without it. See that every animal in the stalls, the folds and the pens is gaining, a little at least. Stationary, so so, about as good as last month, is no way to get a remuneration for your last summer's work. Do not stereotype your cattle, but keep them growing; and remember that not more depends upon getting in your crops well in summer, than upon expending them wisely in winter.

We suppose you have plenty of dried muck, or leaf mold, or leaves on hand, to throw about the stalls and pens, for absorbing and mixing with the excreta of the animals, for we talked about that all the autumn. Neither straw nor coarse hay should be used for these purposes. The way to make manure of the corn-stalks, coarse hay and the straw, is to cut them with the hay-cut-
ter; soften them with water, and make the animals eat them. A ton of any kind of straw that is bright and clean, with two or three bushels of corn meal, will produce more value in the growth of an animal, than the worth of the corn meal; and so there is something gained. Roots will answer the same purpose—that of enabling the animal to digest straw with some advantage, that is, with an increase in value beyond the worth of the roots.

Your wood pile, we suppose was put up about this time last year. If so, it will burn well and will help you not a little to the enjoyment of a Merry Christmas and New Years. Well then, remember, that there will be another Christmas and its following New Years next year, and though you may not like to be troubled just at this time, about things so far off, we would advise you to be hailing wood before

the snows become too deep, and see to it that a good stock is packed away before the Spring work comes on. It is miserable policy to depend upon green wood. It gives but half as much heat, and that oftener when you do not want it, than when you do. Green wood, a smoking house, and a scolding wife, (not to be blamed for scolding,) are apt to go together, and neither of them are just what you want. By having a year's stock of wood prepared before hand, you will avoid these great evils.

While supplying yourselves, see to it that there is dry fuel for the school house. Many a child has taken a cold, that ended in consumption and early death, from having only green wood at the school house. Look well, but not exclusively, to your own interest. No man can live for himself alone. All are

bound together in society. There is here a common interest. If one member rejoice, or suffer, all are more or less affected. Act well your part in the neighborhood and in the larger circles in which you move, and may you have a good winter of *rest* from the summer's toils, but of *work* for self-improvement, for the benefit of your family and for the public good. Depend upon it, if you and your wife and sons and daughters read our journal and others like it, these long winter evenings, it will not mar or take away your own *experience* in farming, but will give you the valuable experience of others—will not make you less a *practical* man, but more so, not less but more independent in your future plans and actions.

From the Prize Essay of Prof. H. Y. Hind.

THE WHEAT STEM FLY, AND OTHER DEPREDATORS.

1. *The Wheat-Stem Fly, (Chlorops Pumilionis.)*—Perhaps this species has not yet been identified on this continent, nevertheless it is quite certain that numerous insects belonging to the same genus, infest the wheat crops in America. As every kind of information bearing upon the subject of wheat culture and wheat depredators is of the utmost value to the farmer, the following notices of insect depredators, which may be met with in our wheat fields, are subjoined. Their habits and distribution have not been much studied on this continent; it is to be hoped, however, now that attention is painfully drawn to the insects preying upon wheat, that observers will be found among us, zealous to record the approach and describe the habits, life and history

of the unknown insect pests on the most valuable cereal.

The wheat-stem fly derives its name from the color of its eyes, and the effect it produces upon the plants it attacks. It destroys the central shoots, and thus occasions the dwarfing of the many lateral ones which are pushed out during the decline of the main stem. These side shoots are not only short in height, but carry a small head irregularly filled with grains. The color of the fly is black; the under side of the head and two narrow longitudinal lines in the thorax yellow; under side of the body pale yellow, with two black spots on the mesosternum; halteres or poisoners white; the legs ash grey, and black at the tips; maggot small and white; pupa yellow, smooth and shining, and

rather more than one-twelfth of an inch in length.

2. *The American Meromyza*, (*Meromyza Americana*.—Fitch.) Length, about one-fifth of an inch from tip to tip of its wings; color yellowish white, with a black spot on the top of its head, continued backward towards the neck; thorax with three black stripes; abdomen with three broad blackish stripes; wings, semi-transparent; eyes bright green; found in the latter part of June.

3. *The Obese Siphonella*, (*Siphonella Obesa*.—Fitch.)—About the size of the preceding insect; body short and thick; color black; under side of the body yellow, with a tinge of green under the abdomen; legs tawny yellow, with their tips black; head yellowish white; antennæ tawny yellow, their tips black; an egg shaped spot on the crown, two dark stripes on each side of the breast, and the anterior pair of feet black.

The larvæ of these insects burrow in the stalk, rendering them dwarfish, and often causing the heads to perish; small, slender, pale green and watery white, shining maggots.

4. *The Common Chlorops*, (*Chlorops Vulgaris*.—Fitch.)—Length about one fifth of an inch from tip to tip of its wings; color, pale tawny yellow, with a round black spot on the top of its head; tips of antennæ and feelers black; two black bristles at the end of the middle shanks, and one at the end of the forward ones, with rows of black bristles upon the thorax; on the top of the head two pairs of bristles incline forward, and two backward.

5. *The Shank-Banded Oscinis*, (*Oscinis tibialis*.—Fitch.) *The Yellow-Hipped Oscinis*, (*Oscinis coxendix*.—Fitch.) *The thick-Legged Oscinis*, (*Oscinis crassifemoris*.—Fitch.) Several of

the above species have been met with on wheat in the State of New York; too little is known of them, however, to make further remarks upon them necessary.

6. *The Deceiving Wheat-Fly*, (*Hymelyia deceptiva*.—Fitch.)—Very common in the latter part of June in Eastern New York. A quarter of an inch in length from tip to tip of its wings. Color ash gray, legs, antennæ, and feelers black. A row of brown black spots form an intercepted stripe down the middle of its abdomen. A tawny yellow spot upon the front of the thorax, passing into a black stripe upon the top of the head.

7. *The Similar Wheat-Fly*, (*Hymelyia similis*.—Fitch.)—*The Wheat Mow Fly*, (*Agromyza tritici*.—Fitch.) Showing its larvæ in the form of myriads of pale maggots crawling from the mow of wheat soon after it is placed in the barn; the kernels of the grain shrivelled and dwarfish. The flies are like the common house fly, very much reduced in size. Color black, with a pale reddish yellow band upon the front, above the base of the antennæ, the mouth margined with dull yellow. The legs, brownish-black. The wings notched on their outer margin near the base.

8. *The Wheat Thrips*, (*Thrips tritici*.—Fitch.) *The Three - Banded Thrips*, (*Coleothrips trifasciata*. Fitch.) Found upon the heads and stalks of wheat in June and July, exhausting the juices of the kernels and rendering them dwarfish and shrivelled, exceedingly minute, long and narrow, six-legged insects, of a bright yellow or of a shining black color; very active. First noticed by Dr. Fitch from specimens sent from Wisconsin, July 9th, 1855, where it was causing some alarm

in the neighborhood of Geneva. Seen near Geneva in countless numbers. Found in the blossoms of wheat and clover. The *Thrips cerealium* is a most destructive insect, and is said to have destroyed, in 1805, one-third of the wheat crop in Piedmont. According to Mr. Kirby, it is by far the most numerous of any insect upon the wheat in England; he does not think he ever examined an ear of wheat without meeting with it.

YIELD OF DIFFERENT KINDS OF POTATOES.

A writer in the Germantown Telegraph makes the following statements, which, if true, as we have no reason to doubt, show the importance of planting the best kind for each locality :

MR. EDITOR:—"Last spring I manured about three acres of ground for potatoes, with barn-yard manure, and planted with three different varieties. The first was the Blue Mercer, or California ; they take the whole season to mature, as the vines were green up to frost; they grew large and were a good crop, turning out about as potatoes did a few years ago, when the raising of this crop was profitable. The next was the White Mercer ; they are a very nice, smooth potatoe, better, quality than the former, but the yield was only about half of the former variety. The other kind was our old-fashioned Mercer, the yield of which was very poor, not more than one-fourth of the first named, and very small, but few of them of a suitable size for market, they grew side by side, were cultivated the same, and all manured alike. The ground laid high, rather on the gravelly order, and they suffered much for want of rain the latter part of the season."

CULTIVATION OF CUCUMBERS.

ED. FARMER'S MAGAZINE :—Allow me to give my experience in the cultivation of cucumbers. The last season I planted, May 15th, in hills four feet apart one way and two the other, in deep black loam, with nearly all the rotten compost from under an old barn that had been up more than thirteen years, and mixed with each hill enough leached ashes to cover the bottom, filling up with small layers of loam mixed with the compost to $1\frac{1}{2}$ inches. The seeds came up in five days after planting. The vines blossomed in great numbers and were heavily loaded with very large fruit, and I can assure you, that on one piece of ground, six feet square, was obtained $1\frac{1}{2}$ bushel of cucumbers, as fine a crop as any one could wish, and they continued to bear for an unusually long time. But with more success and on a larger scale I report a more profitable crop. I planted June 1st.; commenced by making holes in the earth at the distance intended for the hills, that would hold about a peck of rotten compost, which were then about half filled up with dry leached ashes, covering the ashes with a small quantity of earth. The seeds were then planted on a level with the surface of the ground, on a rod and a half square; and to my great astonishment, notwithstanding such a wet season was hardly ever known before, and almost a universal failure of crops, when I beheld mine in less than two weeks time, remarkably thrifty. The product amounted to 6 bushels; and if any person can beat this on the same amount of land I would like to hear it stated, and say to all try it; and instead of throwing your ashes away, apply them where they will be of use.

W. E. L.

ARTIFICIAL GUANO.

BY DR. LOUIS HARPER.

THE *Cotton-Planter* of Alabama has furnished a recipe for the manufacture of **Artificial Guano**, which has been copied in various papers, even in the New-York semi-weekly Times of November 30th last. There is no doubt, many agriculturists will make the experiment of manufacturing and using the so-styled artificial guano, and nearly all of them will be desirous of knowing its value. It will therefore be for their interest to examine the article closely in order to prevent disappointment and losses.

The following is the article as it is contained in the *N. Y. Times*:

"We have been favored with the following recipe for making a fertilizer, which our friend, who furnished it, assures us is equal to the best Peruvian guano, at one half the cost. We have not yet tried it, but give it to our readers for what it is worth.

1. Wood ashes, 3 bushels ; 2. Rich earth from the swamp, 20 bushels ; 3. Fine bone-dust, 3 bushels ; 4. Land-plaster, 3 bushels ; 5. Nitrate of soda, 40 pounds ; 6. Sal Ammoniac, 22 pounds ; 7. Sulphate of soda, 20 pounds ; 8. Sal magnesia, 10 pounds ; 9. Common salt, 10 pounds.

No's 1, 2 and 3 mix together. No's 5, 6, 7, 8 and 9, dissolve in 5 pails of water, then add to the mixture, No's 1, 2 and 3 ; then mix like mortar ; when thoroughly mixed add No. 4, which will bring it into a dry state. Apply three or four hundred pounds to the acre. We are assured by those who have tried it, that it is equal in its effects to the very best guano."

There is no doubt, most of the ingredients of the proposed artificial guano

are very well selected, and they are all elements of fertility, or such as serve, either for the immediate nourishment of plants, or to dissolve the useful salts contained in the soil and render them useful for vegetation.

The wood-ashes contain principally : 12 parts of potash, 9 parts of soda, 26 parts of lime, 5 parts of magnesia, 4 parts of sulphuric, and 20 parts of carbonic acid, and are known to be for several plants an excellent fertilizer. Bone-dust contains principally 44 parts of animal matter, which gives ammonia, 52 parts of phosphate of lime and magnesia, and 5 parts of carbonate of lime, and is a fine fertilizer for all such plants as are cultivated for their grains or seeds and for some others. Land-plaster, or sulphate in lime, commonly called plaster of Paris, consists in 100 parts, of 33 parts of lime, and 46 parts of sulphuric acid ; it is known to be a fine fertilizer for some plants and soils. Nitrate of soda consists of 37 parts of soda and 63 parts of nitric acid, and may serve as a good fertilizer for a few plants, not for many. Sal ammoniac contains 33 portions of ammonia and 67 of chlorine, and is a most excellent fertilizer (but not in such homoeopathic doses as here proposed) sulphate of soda is generally a good fertilizer ; it consists of 44 parts of soda, and 56 parts of sulphuric acid. Sal magnesia (we take for sulphate of magnesia, the best form of magnesia for a fertilizer, but it may also be chloride of magnesium) ; it contains 17 parts of magnesia, and 51 parts of water in 100 pounds. (Chloride of magnesium contains chlorine 74 and magnesium 26 parts) ; common salt, or chloride of sodium, contains 60 parts

of chlorine and 40 parts of soda ; it is for many plants and soils a good fertilizer.

However suitable those ingredients may be, not only their quality but also, and even *principally*, their quantity must be considered. Let us then examine if the quantities proposed in the recipe be as suitable as their quality.

The recipient of the above fertilizing elements as salts, is 20 bushels of "*Rich earth from the swamp.*" This cannot mean peat or swamp-muck, principally because swamp-muck, or peat, is not an *earth*, but the carbonized remains of various swamp plants, and is mixed with very little earth ; secondly, because the recipe comes from the south, where peat or swamp-muck is not found ; it is only a product of the more northern part of the temperate zone, and will scarcely be met with below the latitude of the New England States, except on the top of elevated mountains. The weight of such rich earth can scarcely be less than 100 pounds a bushel, but we will estimate it only to 80 pounds, it cannot be less. The 20 bushels, in an air-dry state, would then weigh 1600 pounds, and if we take 3 bushels of wood-ashes to weigh 100 pounds ; 3 bushels of bone-dust 120 pounds ; 3 bushels of plaster 200 pounds, the whole quantity of the artificial guano, prepared according to the recipe, would weigh 2122 pounds, or as we will admit, 1 ton (of 2000 pounds.) We will therefore calculate the quantity of the different ingredients as belonging to a ton of the artificial guano, and follow the order adopted in the recipe.

Three bushels of wood-ashes we have admitted to weigh 100 pounds, or $3\frac{1}{3}$ pounds a bushel. It certainly weighs not more. There is a great difference

between the different kinds of ashes, but, as wood-ashes in general is mentioned we will take such average proportions of the ingredients as the seven most common kinds of ashes yield

	Potash.	Soda.	Lime.	Magnesia.	Phos. Ac.	Sulph. Ac.	Nit. Ac.	Chlorine.	Ammonia.
Wood ashes contain in 100. lbs.....	12	9	35	6	8	4	—	—	—
Bone dust contain in 120 lbs.	—	—	34	1	30	—	—	2	3
Land plaster contain in 200 lbs.....	—	—	66	—	90	—	—	—	—
Nitrate of Soda in 40 lbs....	—	15	—	—	—	25	—	—	—
Sal ammoniac in 22 lbs....	—	—	—	—	—	—	15	7	—
Sulphate of soda in 20 lbs....	—	9	—	—	11	—	—	—	—
Sulphate of magnesia in 10. lbs.....	—	—	—	2	—	8	—	—	—
Common salt or chloride of sodium in 10 lbs. (Sodium 4.).....	—	5	—	—	—	—	6	—	—
Total, 12 98 135 9 38 113 25 23 10									

A ton of artificial guano contains then :—1. Potash, $\frac{1}{2}$ per cent ; 2. Soda, $1\frac{1}{10}$ per cent ; 3. Lime, $6\frac{1}{10}$ per cent ; 4. Magnesia, $\frac{1}{2}$ per cent ; 5. Phosphoric acid, $1\frac{1}{10}$ per cent ; 6. Sulphuric acid, $5\frac{1}{20}$ per cent ; 7. Nitric acid, $1\frac{1}{4}$ per cent ; 8. Chlorine, $\frac{1}{20}$ per cent ; 9. Ammonia, $\frac{1}{2}$ per cent, and 77 per cent of ballast as we may say. The ashes contain beside 20 per cent of carbonic acid, which would give 1 per cent of that acid, but as swamp earth contains a certain quantity of carbonized vegetable matter, which, together with the $\frac{1}{1000}$ per cent of carbonic acid contained in the atmosphere, furnishes a sufficient quantity of that acid, so that 1 per cent of carbonic acid in the ashes is immaterial.

The "rich swamp earth" may, besides, increase slightly the quantities of lime, magnesia, oxyde of iron and carbon, and add some humic, crenic, and apocrenic acids, but it consists mostly of silica and alumina which is, with the exception of a small quantity of soluble silica, an inert and unavailable mass. Admitting now that about 4 per cent of the ballast, as we have called it, of the artificial guano, be soluble in water, the whole proportion

of the ton of artificial guano soluble in water cannot exceed 12 per cent.

Such quantities are certainly, even if a whole ton was used for the fertilization of one acre only, very insignificant and entirely insufficient, but now only $\frac{1}{6}$ of the ton, or 400 pounds at most, are to be applied to one acre. One acre would then only receive about 47 pounds of soluble matter, or $2\frac{1}{2}$ pounds of potash, $7\frac{1}{2}$ pounds of soda, 27 pounds of lime, $1\frac{1}{2}$ pounds of magnesia, $7\frac{1}{2}$ pounds of phosphoric acid, $22\frac{1}{2}$ pounds of sulphuric acid, 5 pounds of nitric acid, 4 pounds of chlorine, $\frac{1}{2}$ pound of ammonia, and 308 pounds of ballast or unavailable matter. It would appear to be absurd to pretend that such quantities can have any perceptible effect upon the vegetation, they are really homœopathic doses, and if this system will do for the restoration of a sick body to health, nobody will resort to it for the increase of healthy organic bodies. Nothing indeed but the lime and sulphuric acid could have a perceptible effect; but less than a bushel, or exactly $\frac{2}{3}$ bushel of land-plaster,—for that much is contained in 400 pounds of the artificial guano—cannot have a very perceptible effect, as from 5 to 6 bushels of sulphate of lime is deemed by experienced agriculturists an adequate quantity for one acre of land. Ammonia is decidedly the most effective element, but what effect can $\frac{1}{6}$ pounds of ammonia have upon an acre of land? It is indeed ridiculous and absurd to propose such a quantity.

Nevertheless, at most, 400 pounds of the *miraculous* artificial guano are said to have an effect fully equal to that of the best guano. Let us then cast a glance upon Peruvian guano which may be called the best guano. It contains 17 per cent of ammonia, 23 per cent of

phosphates and 8 per cent of alkaline salts. If therefore, 400 pounds of it, are used for the fertilization of one acre of land, the latter receives 68 pounds of ammonia, nearly 7 times more than is contained in the whole ton of the miraculous artificial guano. It receives furthermore, 92 pounds of phosphates and 32 pounds of alkaline salts.

It is therefore evident that the artificial guano cannot be useful and available, unless at least 4 or 5 tons of the article are taken for the fertilization of one acre only; but then it would be more than twice as dear as guano, and even then defective in some and superfluous in other of its contents. No doubt the artificial guano could be made an excellent fertilizer, if instead of 22, from 400 to 500 pounds of sal ammoniac are mixed with it, but then the ammonia alone would cost from \$50 to \$60.

We are sure that 2 bushels of plaster of Paris must have a more decided effect than the 400 pounds of the artificial guano and we advise the inventor to desist from making an available fertilizer in the manner proposed by him.

It may be a good one but it *can* never be an *available* one; for if good, it *must at least cost twice as much as guano* and be by far less portable.

Remark.—We think Dr. Harper has shown that the artificial guano, proposed for the farmer at something like half the price of Peruvian Guano, would be a poor article for the farmer to purchase by the pound. Nevertheless, as swamp muck is *gratis* to most northern farmers, it will be safe for them to make guano of it at home, by mixing with barn manure, ashes, lime, plaster and salt, as we have often recommended. It would be better for them to make a home guano of it at a cost of 50 cents a ton, worth a dollar a ton, than to purchase it manufactured for them at \$30 a ton, when, as Dr. Harper has shown, it could not be worth, at best, but a moiety of the money.

REPORT ON HORSES.

THE following Report on horses by Prof. Clark, of the Hampshire (Mass) Agricultural Society will be read with interest. To a few of our readers in that vicinity, it will not be new, but they will excuse the repetition, as we wish to give it to a wider circle of readers.

Prof. Clark is a gentleman who knows how to own a drive and subdue, if need be, a spirited horse, as well as any other man. We have had an opportunity to witness Mr. Rarey's skill in taming a ferocious horse and it is truly wonderful. But Prof. Clark is right in saying that it requires a *peculiar* talent. Mr. Rarey can help any one, as regards the management of horses, and if we had much to do with them, we would give twice what he asks, to be instructed by him. But he cannot make every one a Rarey in this line, for the root of the matter, the natural gift, the endowment, is not in every one.

It is a pleasing evidence of progress both in intelligence and taste, that as a people we are more interested than ever before in the improvement of the horse. It is also peculiarly gratifying, that in the very midst of our efforts to breed the finest animals, two of our own countrymen have begun to instruct the world in the best possible method of subduing and educating them, so that we need no longer treat them as slaves to be governed only by the lash, but rather as intelligent companions, obedient from choice. This system which has been so thoroughly perfected and successfully applied in breaking colts and in overcoming the evil propensities of vicious horses, both in this country and in England, is founded upon a peculiar principle in the nature of the

horse, (and perhaps of all other animals,) by means of which we may obtain the most complete control over his will; and then by kindness and patience teach him to do cheerfully anything of which he is capable. This principle has been employed by horsemen in various ways from the earliest times, but seems to have been first clearly apprehended and intelligently used, for the subjugation of the horse by the Messrs. Rarey of Groveport, Ohio. After many years of experiment and study, these gentlemen have acquired the most astonishing skill in subduing and training horses so as to render the wildest, perfectly tame—the most obstinate perfectly submissive, and the most vicious and dangerous perfectly "kind and safe." It is equally remarkable that these almost incredible results are attained in a very short time, often in a single hour, and by the simplest possible means, so that neither the horse nor the operator are exposed to any danger.

Unfortunately at present this art is a secret, and therefore not available for all, though Mr. W. H. Rarey is willing to give full instructions on the subject for the very moderate sum of ten dollars. Nevertheless, as eminent success in this as in every art, demands a peculiar kind of talent, as well as extensive experiments, it is hardly to be expected that every man will become his own horse-breaker. It would therefore be well for suitable young men to adopt this as a profession, and having obtained as much information as possible from Mr. Rarey and others, establish themselves in our towns and villages, and for a reasonable compensation break colts and correct disagreeable and dangerous habits in

older horses. Thus the positive value of these animals would be greatly enhanced, and much property and many lives, as well as cruel whips and worse than idle words be annually saved. Of course the man with whom alone sensible people could entrust their horses must be a person of reliable character and excellent temper. "A good horseman," says Mr. Rarey, "will neither fear nor be angry with his horse, and will be satisfied with teaching one thing at a time." The object of the system is to make the horse, *respect, love, and obey* his master, and this can be accomplished only by firmness, gentleness, and great patience.

The education of the horse however, should by no means be regarded as finished when he has been rendered obedient and docile. He must be taught, first, that the saddle, the harness, the wagon, the robe, the umbrella, the gun, the locomotives and other similar things will not harm him and then he will never be afraid of them.

Secondly, his mouth needs educating, not with a tormenting and worse than useless bitting machine, but with a thick straight bit, or better still in good hands, a curb-bit furnished not with a chain, but in its place a smooth leathern strap. He must be taught to arch his neck and bring his head into a perpendicular position before he can be a safe and pleasant driver; nor should the training close until he yields his neck and lower jaw readily to the bit. Much of this training may be best given on foot, or in the saddle.

Again, much attention should be given to the paces of the horse, and the roadster should never be allowed in harness to use any other gait than the walk or the trot. The ease and rapidity with which either of these paces is performed

depends nearly as much upon the early training as upon the natural qualities of the horse. It is a matter of great importance to all, but expressly to the farmer, that horses be taught to walk rapidly, and also that they be not allowed to break into a trot when required to walk fast any more than to break into a gallop when told to trot.

Enough has been said in regard to the education of the horse to show, that if we would render this noblest of animals in the highest degree useful and enjoyable, we must bestow more care on this point; but it is equally important that we attend to the improvement of the race by judicious breeding.

Our stock of cattle has been greatly benefitted by the importation of fine specimens of the Durham, Devon and Ayrshire breeds, each peculiarly adapted for a specific object, and we might doubtless improve our horses by a similar course. The English breeders have been eminently successful with the horse, as with the ox, because they have intelligently labored to produce animals perfect for a particular purpose. Consequently, we find the fleet racer, the swift, hardy hunter, the fast and stylish coach-horse, the gigantic draft horse, and the active though diminutive pony, each in the highest perfection in England.

There has been much talk of late about breeding "horses of all work," and unquestionably, American horses like American men, are remarkably versatile in their capabilities. In no other country do we find the same horse at one time doing duty on parade under the saddle, at another showing a three minute trot in the sulky, and again, ploughing out corn.

Now, however convenient and valu-

able such horses may be to their fortunate owner, it should be remembered that to produce the most perfect breeds for the road, for heavy draft and for the saddle, we must direct our attention to three specific objects, and that having done our best we shall always have go-betweens enough for horses of all work, which can be sold at a low and yet remunerating rate, because those which excel in each class, will readily command "fancy" prices.

The finest qualities of the English horse may be traced directly to imported Arabians, and it is equally true that in this country our best breeds have a large proportion of the same blood. For example, in the Morgan horse we find that Justin Morgan was half or three-quarters thorough bred; his son, Sherman Morgan was out of an imported blood mare; his most celebrated son old Black Hawk, was out of a half thorough bred mare; and his son Ethan Allen, the fastest brother perhaps ever known, out of a Messenger mare. Every where we see the Arabian blood imparting its usual qualities, large lungs with long windedness, firm, hard bones with great fleetness, and a sensitive nervous organization, with unfailing spirit and indomitable courage.

It would seem, therefore, that the most rational course for the improvement of our horses and especially of our roadsters, would be to cross our fast trotting mares of good size, with the energetic, swift-footed Arabian, or which is nearly the same thing, with the English blood horse. In conclusion, may we not hope that some of those enterprising farmers who have done so much to improve our sheep, swine, and neat cattle by the use of foreign breeds, will now turn their attention to horses, and by the importa-

tion of the best stallions, greatly benefit both themselves and their country.

W. S. CLARK.

THE GUANO TRADE.

In an article on the "Revival of Trade with the Pacific," the *New York Herald* says:—

"One of the greatest, and we may say the principal source of return employment for our ships in the Pacific, is the transportation of guano from the Chincha Islands to the United States and Europe; but the peculiar monopoly maintained by Peru, not within her own territories, but within those of other nations, makes even this source of employment a disadvantage rather than a favor. A little circumstance which has just transpired in commercial circles illustrates this. Letters received by the last steamer from Europe announce that the English agents of Peru, after being long out of the market, are now offering twelve dollars per ton freight for guano from the Chinchas, but that those offers cannot be extended to American vessels in our ports, because of an understanding with the agents of Peru here, which inhibits the English agent from chartering our vessels. Here we find the Peruvian monopoly extending far beyond the limits of Peru, and exercising a baneful influence upon our commerce. This influence is extended not only into the freighting interest, but into all the operations of the guano trade, and its sale and distribution in the consuming countries, to the great increase of cost to the consumer, and without any corresponding benefit to the government of Peru. A few figures will make this clear. Mr. De Osma states in a letter which was laid before a guano convention at Washington, in June, 1856, that

the guano sent to the United States yielded to Peru only \$14,05 per ton. If we add to this sum the freight of \$12, and \$4 incidental expenses and commissions, it becomes evident that the guano can be laid down in our ports for \$30 per ton. The wholesale price at which it is sold in our market is \$60 per ton, showing a difference of \$30 per ton—twice what Peru gets for it—that goes into the pockets of somebody standing between Peru and the American consumer.

There can be no valid objection against the right of the government of Peru to set what price she pleases upon her guano in her own territory, and to limit, if she chooses, the amount which she will annually dispose of. But there are great and valid objections to her extending her monopoly into the transportation of it to this country, and its distribution here. Every principle of public economy is opposed to her so doing ; for, while it brings her no benefit, it doubles the cost of the guano to the consumer. In establishing this monopoly in the United States for the benefit of third parties, she abuses our friendship towards her, and perpetuates a wrong upon our citizens. If she would establish her scale of prices at home, and throw open the carrying trade and distribution of her guano, she would realize more from it, and greatly decrease the cost of it to our citizens."

And so here we have it, just as we have always said to our readers. "The guano sent to the United States yields to Peru \$14,05." The freight and incidental expenses bring the entire cost to \$30 or a little less. The American farmer pays \$60, besides the freight to his place ; and the plain English of it is

that he is gouged out of just half his money. Will agriculture ever be sharp enough to "hoe its row" alongside of commerce ? We fear not. How we wish the farmers would work up and increase, by well directed labor, their own resources of fertility, and leave these traders in *birds' dung* alone, 'till they come to a proper sense of what fair dealing is. The fact is, you can have the best Peruvian guano for \$30, and any other guano in the market, for \$15, as soon as you refuse to pay more. Employ more labor, and buy less imported manure, till the dealers come to their stomachs. Sixty dollars worth of well directed labor will enrich your farm and increase your products, more than any two tons of manure ever imported, and we think we might say three with perfect safety. A farm must, in the main, *enrich itself*, and it is labor that makes it do this.

If our present congress will not spend half the winter in besmearing its own character, and the other half in whitewashing it, we shall see better times for the buyers of imported manures. But, as there is not much ground for hope from that quarter, we advise farmers to swell out the home manure heap by all sorts of additions that a little labor will procure, and so let the dealers sweat a while. It may do them good. We cannot advise them to resort to the cheaper guanos, for, so far as at present advised, we think the dearest, (the best Peruvian,) is the cheapest, even at its present exorbitant price.

AN EXPERIENCE WITH CARROTS

"I manured a piece of sod for this crop, plowed it in ; after rolling, sowed about 200 pounds guano to the acre, harrowed it well, ridged slightly, then

drilled in the seed. They did not come up well on account of too much wet at that time. One-half of the seed was of the yellow variety; the other was white. We are now harvesting them. The white ones are much easier taken up; as they grow out of the ground as well as in, they can be pulled with the hand. The yellow require a deep furrow drawn close to the row to get them out; the white will make nearly double the number of bushels, and for feed I think quite as good as the yellow.—*Germantown Telegraph.*

So great a difference, we hardly believe would occur in every case. Still it is well for practical men to relate results, that others may profit by their experience. If the white carrot will yield but a little more than the yellow, and if it is about as good, and more easily harvested, all these considerations should give it a strong preference.

GRAZING WHEAT IN SPRING.

"Thinly planted wheat may be grazed quite late in spring, but wheat too thick is only aggravated by the practice—it will come up thicker than before."—*Exchange.*

The grazing of wheat in the spring, in case of thin sowing, may do very well when there is little or no danger from insects. But when the farmer is driven to late sowing to avoid the Hessian Fly, and desires his crop to be early ripe to escape the Midge, it would be unfavorable to his purpose, were he to graze in the spring. Hardly any business requires the looking so many ways at once as the farmer's. When the Hessian Fly and the Wheat Midge prevail at the same time, in any section of country, it is desirable to sow late to avoid the fly, and then to hurry the

crop by the application of stimulating manures, and to avoid any retarding action, that it may mature early, notwithstanding the late sowing, in order to escape the midge.

AMERICAN INSTITUTE FARMERS CLUB.

Meeting at the Institute Rooms, Dec. 14, 1858, Wm. Lawton, Esq., in the chair.

SECRETARY MEIGS read several valuable communications from foreign countries. One of them was from a gentleman in Melbourne, Australia, D.K. Minor, Esq., formerly of California, giving a glowing description of the agricultural capabilities of that island, or continent, whichever it should be called. The population is now a million and a half, but, as the writer believes, is destined to become 40,000,000 at no distant day. The letter was dated in August, and it was then mid-winter at that place. Mr. Minor thinks the country superior for farm and garden products to any he has ever seen, except California.

Another letter from Springfield, Ill., expressed the belief that the Sorghum is to be of very great value to this country. It stated that the sugar mill at Springfield, Ill., had turned out 300 gallons of molasses per day, through the season; admitted that the Sorghum of that region had not produced sugar this season, but ascribed the failure to continued wet weather, which had prevented the canes from becoming as free from acidity, as may be expected in ordinary seasons. There can be little doubt but that the juice of the Sorghum, as far north as Central Illinois, will be manufactured into excellent sugar, as we know it has already in the region of Philadelphia, about the same latitude.

The regular subjects for discussion

were "The Winter Treatment of Manures," and the "Effects of Winter on Clayey and on Sandy Soils."

Prof. Mapes, Editor of the *Working Farmer*, said : The effect of freezing on clay soils is to pulverize them, to render them more feasible, by separating the parts, and overcoming the cohesiveness. Clay and carbon are the principal retainers of ammonia. Hence, if you expose a clay soil to the winds and frost of winter, the ammonia does not escape. In a sandy soil, it escapes into the air. A clay soil is greatly benefitted by ridging up in autumn, so as to expose as much of it as possible to the action of frosts ; and nothing is lost from such a soil by evaporation. A sandy soil, on the other hand, not requiring to be rendered more loose in texture, and more pulverulent, but rather to be consolidated, would be injured rather than benefitted, by fall plowing, and especially by ridging up, inasmuch as the effect of freezing would be to diminish the too little compactness it has ; and besides, not being retentive of ammonia, it would lose by evaporation during the winter, and that, the more it was exposed. It would be more rational to cover such a soil with a mulch, than to extend its exposed surface by ridging.

Mr. Nash, Editor of the *Farmers' Magazine*, was fully convinced of the great benefit to clay soils from fall plowing. He was confident that stiff loams were improved by the same operation. That loams of but moderate tenacity might advantageously be plowed in the fall, he had no doubt ; and it was quite clear, that very sandy soils should rather be subjected to a compacting than to a pulverizing process—that they ought not to be exposed by artificial means to the action of frost. But it

was not so clear where in the scale from loam to sand, fall plowing should cease.

Prof. Mapes, in reply, referred to lands on the Camden and Amboy railroad, near Spottswood, in New Jersey, so sandy formerly, that if a fence were placed upon them, it would be half above ground and half below, after the wind had had time to operate upon the soil. A farmer in that region, by the admixture of swamp mud, and by plowing in a few green crops, had persuaded the soil to lie still, and let the wind blow over it. It was changed from a blowing soil to one that would not blow. He then planted corn in it ; but, wedded to old ways, hilled the corn uncommonly high. Much surface thereby was exposed to the action of winter. The high hillling was equivalent to ridging. A consequence was that the soil was changed back to a blowing sand.

Mr. Nash. That shows that a very sandy soil is injured by ridging up in autumn, but it does not fully explain, to what degree a soil must be sandy in order to forbid fall plowing. That question is not yet as clearly settled as it will be. Some men are exceedingly opposed to experiments. This New Jersey farmer probably was one of this sort. Nevertheless, by adhering absurdly to the old hilling up process, he performed an experiment from which any observant man could draw an inference—showing that such land as that should rather be rolled than ridged, that if it were possible to mulch it in the fall, so as to protect it from the frosts of winter, that would be better for it than fall plowing. Nearly all farming is made up of experiments, and the farmers who are opposed to experiments generally make the most of them, and the most foolish, as in the case of this man, who

experimented on the high hillings of corn on dry, sandy land. The only difficulty is, that they do not observe the effect of their experiments with sufficient care, to be guided by them in their after practice. To the wide-awake, observant farmer, whose observation is quickened by a little judicious reading, every thing that he does, and all that he sees his neighbors do, is an experiment—something from which he may draw conclusions for future use.

On the winter treatment of manure, Prof. Mapes remarked that the value of the barn manures is not so much in the quantity as in the condition of the fertilizing matters contained in them. You may say that lime is lime, but it is clear that not all lime is the same thing in its relations to agriculture. The chalk hills of England consist largely of lime, and they are fertile. If you should put a tenth part of the carbonate of lime prepared from the lime rocks of Westchester county into a soil you would render it infertile for years. The latter has not often, if at all, been in the organism of plants and animals. The former has been in organized forms thousands of times, and has thus been advanced in its progress to a condition in which the higher orders of plants can take it up. So the potash from the feldspar of granite rock is the same, so far as the chemist can detect, with that obtained from the burning of vegetables, but is very different in its effects on vegetation. It often happens that wood ashes greatly benefit the crops in a granite soil. This is not because such a soil is destitute of potash. It abounds in it. But the potash from granite rocks is not progressed to that condition in which plants can appropriate it; whereas that in the ashes of burnt vegetables has been through the

higher forms of life again and again. It is progressed to the condition required by growing plants. The lime, potash and other mineral foods for plants must be in this progressed state before they can be of much use. In the barn manures they are so progressed, and hence the value of these manures. The phosphates and alkalies in the excreta of animals are worth, for agricultural purposes, many times those obtained directly from the old rocks. Barn manures should be kept under cover, if possible, at least under a shed, protected from the wind. It is well that the grounds on which they lie should be a little sloping, that the liquids flowing from them may run into a tank prepared to receive them. From this they should be pumped up and frequently thrown over the heap. The fermentation will then be slight, enough to keep the mass a little warm, but not enough to cause waste by evaporation; and the settling of the liquids repeatedly through the mass will carry the soluble portions from one part to another, diffusing them equally, and bringing the whole to a homogenous state, well fitted by planting time for its intended purposes. If many times the weight of the manure be added, in swamp-muck, leaf-mold, or the like, still the quality will not be extenuated, while the quantity may be almost indefinitely increased.

The next meeting was appointed for Tuesday noon, December 22. Subjects : "The National Value of the Chinese Sugar-cane," and "Root Feeding."

BREADSTUFFS.

The *Westfield News Letter* says :—

"There has been a good deal said, within the few past months, about the failure of the wheat crop at the West.

It is true that in some portions of our country the wheat is light ; but the cry of scarcity only comes from the speculators, who have done nothing towards increasing the actual amount of bread-stuffs in our country. Editors, in our large cities, for a consideration, publish these accounts of short crops, and thus do much to help the conscienceless speculator in getting up a panic on the scarcity of breadstuffs. We believe that flour will be cheaper next spring than it is now. The following remarks on this topic, we clip from an exchange :

" Speculators are generally men of seared consciences and corrupt hearts ; having nothing of their own to lose, either of morals or of money, they are always profuse with the funds which they may be permitted to draw from some profligate bank, for their mean and wicked ends. They are not to be trusted or believed in any department of life. A man who speculates in breadstuffs for the purpose of giving the necessaries of life an unnatural rise in price, is a pest to society, and is in as great need of repentance and reformation as any other wretch without a living conscience. Thanks to a kind Providence, there is no lack of harvest this year, anywhere in this country. This is proven by all the honest accounts that come to us, and if the diabolical schemes of speculators are exposed and thwarted, prices will be reasonable, and the poor will reap the benefit of the abundant yield of the fruits of the earth that God has granted." —

About flour being cheaper next spring than now, we do not know. The prosperity of a country is not indicated by the cheapness of farm produce. What we want is, that all who are willing to work should have employment at fair

prices, and then be able to use the farmers' produce to their hearts' content, and to pay a fair price for it. If the effect of speculators' running between, with city banks, and newspapers, that want a sop, to help them on, were to give the farmer a good price for his produce, it would be well, for then the farmer turns round, and gives profitable employment to men who now have nothing to do. But the misery of the speculator's vocation is, that it only compels the consumer to pay more for his necessary food, while the producer actually gets less. If the rascals had their necks stretched, or what amounts to the same thing, if corrupt banks and venal presses would not put the wind in them, the eater would pay less, and the producer would get more. We quite agree with the *News Letter* and its exchange, that speculators in breadstuffs, with conscienceless banks and sop-devouring newspapers to back them, are a pest, compared with which the frogs in Egyptian bread-troughs were a luxury.

A WORD ABOUT PREMIUMS AT CATTLE SHOWS.

FOR what are they given? It will hardly be said for a good article, at haphazard. Of what benefit is it to the public, that any one has a good animal, or a good crop, unless he can explain how he obtained it, and give such an account of the matter, that others may profit by his example? One man has a fine crop of wheat. His neighbors was attacked in the fall and spring by the Hessian fly and about ruined. Now, if the first can give no plausible reason why his escaped, it might be better to give the premium to the one that lost his crop, thereby making up in part for his loss. But if the

first says: I knew that the fly was about; I sowed late, that he might go into winter quarters, before the wheat was up; and then that it might be out of his reach as early as possible, when he should have come out of winter quarters in the spring, I applied a stimulant as soon as the snow was off, (stating what the stimulant was and how he applied it,) to hasten as much as possible the spring growth, he would seem to be richly deserving of a premium, because he would have set others to thinking, and might have started a plan of procedure which would be of immense public value. So if a farmer happens to have an uncommonly fine calf, but can point to no cause, no wise procedure of his, for obtaining such a specimen, we see no reason why he should have a premium, unless it is the object of agricultural societies, to reward good luck, which would hardly be claimed. But if another brings an equally fine calf, with an explanation of his procedure in the case, and if that procedure should seem to the committee a wise one, and one that would be likely to produce similar results, when adopted by others, or repeated by himself, he would certainly deserve a premium. Now it has seemed to us that Executive committees should give to committees of award, some discretionary power in such matters, to give the premium, not in all cases for the best specimen, but to the man who had obtained a good crop, or reared a fine animal in the best way, and who should give such a statement as would serve to guide future practice. We would never award a premium to the man who should have grown a hundred bushels of corn in an acre, if to do it he had put the whole year's stock of manure on that acre; while we would cheerfully

reward the man who had grown 75 bushels to the acre, and could show that he had done it with a large profit, and that others may safely follow his example.

COMMITTEES AT AGRICULTURAL FAIRS.

Too much care cannot be taken to appoint the right men on these committees. They should be men of sound judgment, of honest purpose, of great firmness, incapable of being swayed from a just decision. Nothing will so soon bring fairs into disrepute, as a lack of confidence in the judgment and integrity of those appointed to award the premiums. It is all very well if the chairman be appointed with reference to ability to put the report into writing in a style to be read with pleasure as well as profit; but let his associates be men of unquestioned good sense, sound judgment and strict honesty; and no one thing will do more to prolong the good effects of the national, state, county and town fairs, and to make them, as they have been thus far, a blessing to the country. The executive officers of societies should look well to this. The complimenting of distinguished individuals is well, if not carried too far, but it is not the object for which committees are appointed. Men who are fond of receiving compliments, are not always best judges of matters brought before those committees. Plain, practical, working farmers are most to be relied on at our annual fairs.

LIVE AND NET WEIGHT OF SHEEP.

It is usual to estimate the net weight of sheep at half the live weight. In sheep of ordinary quality this is high enough. But in proportion as sheep

are well fattened the weight of the carcass dressed exceeds that of the offal.

"In England, with the coarse-wooled mutton sheep, fatted for the butcher, it is generally estimated that a stone live weight (14 lbs.) will give a stone dead weight (8 lbs.) The live weight (ascertained after the sheep have fasted for twelve hours) is divided by seven, and this gives the weight of the carcass in quarters. Thus a sheep weighing 140 pounds alive, is estimated to weigh 20 pounds per quarter."

According to this estimate, four-sevenths of the live weight makes up the dressed carcass, while three-sevenths go for offal, including the pelt and the rough tallow and head. The carcass of very fat sheep will exceed four-sevenths; that of lean sheep will fall below one-half; and the rule would hold true only in case of sheep well fattened, but not excessively fat.

WASTE MANURES.

AN agriculturalist once wrote: "men have explored the caves of India, the battle-fields of Europe, and the coasts of Africa, for the elements of fertility; yet upon our own farms, in adjoining workshops, or in neighboring towns, are to be found not one, but many sources from which fertilizers may be obtained. How many corners in his own farm afford the farmer the vegetable and mineral constituents of useful composts; how many clay and marl beds, that would remedy the physical imperfections of the sandy surface, are permitted to remain in shapeless and useless idleness; how many masses of materials that have served the purposes of trade or manufacture, remain in the nooks and corners of towns, idle for all the purposes of the farmer, by whom they are capable of

being made, in many instances, valuable agents of fertility." This is true, and a glance at some of these sources of fertility lying or running waste, may not be unprofitable. The drainage *from the stables* is of the first importance, and an earnest effort should be made for its preservation. Perhaps next in importance to this is the *drainage from manure heaps*, as this waste is composed not only of the urine, but a solution of the richest part of the dung. The *drainage from the house* can very easily be preserved, by a proper arrangement, and if not convenient to use in a liquid form may be thrown over the compost heap, and it would be well were it formed principally of turf or dry muck. Such a compost would be an excellent place to throw all blood and animal matter, at killing time, while weeds and vegetable refuse would decay quicker if composted with stable manure. A compost of rotten turf saturated with soap-suds and other slops and refuse from the house, is a regular guano heap. A farmer who saw a neighbor cutting a drain from his yard, to carry off the drainage of his house and sheds, reported around that he observed his neighbor *cutting a hole in his pocket!*

Those who live near a town, can pick up a large amount of the very best kind of manure, by keeping an eye open. The finest pile of manure that we ever owned, was made of the sweepings of a blacksmith's shop. At one time we observed workmen pulling down a livery stable, to put up stores in its place. The soil beneath the floor had been saturated with liquid manure for more than a score of years. We found the person who had the contract for digging the cellar, and engaged the surface soil eighteen inches deep, at twenty-

five cents a load, and would like to get a similar chance at one dollar. About the best field of wheat we ever saw, belonged to a comb-maker, who had used the horn-shavings for manure. One of the most effective manures we ever used, was the refuse from a woolen factory. Many of these and others which we have not mentioned, the farmer who is constantly on the look out for fertilizing materials, can obtain at a very cheap rate.

Perhaps the best bedding to save liquid manure, is dried muck from the swamps. Saw-dust is good, tho' the saw-dust most easily obtained is of a resinous nature, and of slow decomposition. The liquid manure will hasten its decay. In this city saw-dust is used to some extent by keepers of horses, for its economy and cleanliness alone. According to BOUSSINGAULT, 260 pounds of pine saw-dust contains as much nitrogen as 100 pounds of common stable manure.—*Rur. N. Yorke.*

Remarks.—1st, This statement from Boussingault can hardly be true. There is not much nitrogen in pine saw-dust. 2nd. Every thing else in the above is, in our opinion, true and important. Manure is the farmers capital in trade, and if he looks out well, he will find sources of supply a great deal nearer home than the Chincha Islands, and can be supplied at much cheaper rates, compared with the real, permanent value. 3rd. If saw-dust is used for an absorbent, as it may advantageously be in many cases, care must be taken that the mass do not ferment violently. We once knew a farmer to mix pine saw-dust largely with a quantity of manure, which, rightly managed, would have availed \$100 at least, but so violent was the fermentation, and so permitted was it by him to go on unchecked, that nothing but the mere mineral portions were left. Fifty dollars would not be an overestimate of his loss by that operation.

TO YOUNG MEN ON THE FARM.

It is a pleasant feature of the times, that while too many farmers are yet frightened at the idea of increasing knowledge, in order to increase their products, and would hardly dare read a newspaper, lest they should be struck with lightning, or with book farming, or with something else, that would ruin them, the mass of the profession are becoming reasonable and sensible on this subject, and are taking a sensible view of it with reference to their sons.

It is a still more cheering view of the times that the young men are looking to a higher state of agriculture and are seeking knowledge with a view, not to escape their father's calling, but to be ornaments to it. Well, young men,

what are you going to do? Some of you have institutions near you, adapted to your wants, not perfected yet, but far superior to any your fathers enjoyed. Michigan has her State Agricultural College in full operation, and she invites her sons to come and enjoy gratuitously the best instructions she can give, through a president, four professors, and a practical farmer.

Liberal men in New York are doing much to bring about a like state of things; and the State has—rather parsimoniously—made a twenty years' loan to the object, of \$40,000. Most of the other States are moving slowly in the same direction; and it is well perhaps that the movement should be rather

slow, as it is new in this country, and we need to gain experience as we go along. Less mistakes may occur if the States keep watch of each others doings and only move as fast as light is shed on the path.

But in the meantime the young men, who aspire to a thorough preparation for their future work, need not wait. We advise them to study chemistry. It throws a world of light on the farmer's business. It will enable them to see clearly a thousand of Nature's operations, and to understand better how they are to aid and direct his processes. It is so with Geology, Natural History, and all the physical sciences. The Chemistry and Philosophy of Nature are radiant with light for the cultivator, everywhere developing new truths, confirming old ones, and detecting errors.

We advise young men, who mean to excel on the farm, not to wait for colleges to be built. Avail yourselves of the best means of knowledge within your reach. The old farmer's college—the common school—is a pretty good institution. Make the most of that. Academies and high schools may carry you still further. But what signifies it, to talk of being carried? Young America would sooner *go* than be *carried*. If it is not your lot to attend a school of any kind, still do not despair. Some of the greatest men have been self-made. Franklin used, when an apprentice in Philadelphia, to eat a penny biscuit for his dinner, and to read a volume through in a week, by saving the dinner hour, for reading. Thus money to buy one book, and time to read it through, were saved every week. Temperance made his head clear, and he became a very learned man, though a prodigiously hard worker all his life. You have long win-

ter evenings. By employing them as Franklin did the dinner hour, while the other apprentices were after their shilling's worth of oysters and sixpence worth of grog, he became a printer, publisher, author, statesman, foreign ambassador, every where useful and respected. Now, young men, be on his track. Books are cheap. They cost not more than half as much as in Franklin's time. Take up a scientific work, say Stockhardt's Chemistry, and resolve to conquer the difficulties. First master the first page. Go at it with the knock down and drag out principle and do not leave the first page till you have understood the meaning of every word, or marked a line or two, that you do not exactly comprehend, with a view to turn back and conquer the difficulty at another time, fully resolved that you will not give it up, that others have understood it, and that you *can* and *will*. One page done, attack another, and so on. Understand that one volume, and you are another man, you live in another world, you see things with new eyes, and they are no longer the same things that you saw before. The ignorant man looks about him with the same eyes as a cow or a horse. But once admitted into the vestibule even of nature, you have different eyes; you see different things; you think of them differently; you understand more, and you can turn all you know to practical use on the farm, whether it be the little you can dig out of books alone, of a winter evening, by the fireside, or as much as Isaac Newton learned in a life time.

If young men will employ a portion of their winter evenings—we do not want they should be unsocial, or neglectful of family obligations—they would not fail to reap a satisfactory reward.

Knowledge, say some, don't pay. Yes it does pay. Nothing else pays so well. The more you learn now, the better you will know how to conduct your affairs in after life; the more efficiently will you be able to conduct them; and we do not believe that the benefit of knowledge gathered up in youth will ever cease. It does pay and it always will pay, and pay better than anything else.

DEVONSHIRE COWS.

BY C. N. BEMENT, ESQ.

The following, which we take from Emery's Journal of Agriculture, contains important truth concerning this race of cattle, and, as we believe, without in the least overstating their good qualities :

The Devons are a very valuable and distinct breed, possessing several characteristics peculiar to themselves, and of which they are very tenacious. They are uniformly red, varying to a bright bay or mahogany; no white on them, excepting the brush of the tail, which is a sure test of the blood. When calves, the tails which form the brush are always darker in color than their bodies. By the time they are eight or ten months old they are purely white, which never fails in a pure Devon, and generally runs in the blood to a very great extent.

Originally there were two varieties of Devons, possessing different properties of excellence. The South Devons were represented as heavy in the fore-quarters, long and elevated horns, active, vigorous and lofty in their carriage, but rather light behind, and their tails sometimes heavy. Their color a light red.

The North Devon is medium in size; and it is a prevalent opinion among those who are not acquainted with them, that as a breed, they are so diminutive in size, and such poor milkers, that they are of little value to the farmer; this we think is a great mistake.

They are, to be sure, small when compared to the Durhams, but generally as large as the common, or what are called native cattle, and when well fed on common foliage, the cows will weigh from six hundred to eight hundred pounds, dressed, and the oxen from one thousand to one thousand four hundred pounds, and with extraordinary feeding they become very heavy, and always weigh well to their appearance. They mature early, hardly so ripe as a Short-horn or Hereford, but at four years old are fully ripe for the shambles, and at three, good. He is a kind and quiet feeder, with finely marbled and juicy flesh, well mixed with fat and lean, and proves remarkably well when dressed, and yields as much in proportion to the food consumed, as any other breed.

The cow is much smaller than the bull, and the bull considerably less than the ox. They are small in the bone, fine and clean in the limb, straight on the back, full in the chest, free from dewlap, prominent and bright in the eyes, keen in their looks, sprightly and active; and, as Lord Somerville has said, "possess more of the appearance of what is termed blood in horses, than any other breed of cattle." Their horns are long, fine, tapering, and yellow at the roots, when young. Skin yellow, soft and mellow, hair silky and frequently wavy or curled. Circle around the eyes, and flesh of the muzzle yellow or orange color. Their uniform appearance renders them very easy to match for labor, for which none can exceed them. They are excellent travelers, docile and tractable, and always command the highest price for working cattle. Their beef is of the very best quality, being what *fleshers* term "well mixed" or marbled with fat and lean, and proves remarkably well when dressed.

As a breed, the Devon cows are not considered great milkers, so far as quantity is concerned; yet there are some exceptions; but for butter, as we shall prove, they are equal, with the exception of the Alderney or Jersey cow, to any other breed. Like our native or common cows, there are poor, middling,

and good milkers among them. Their milk is remarkable for its richness—eight quarts producing, on an average, one pound of butter, and the butter noted for its richness beautiful color and fine flavor. Instances are on record, of Devon cows having produced an average yield of over two hundred pounds per cow, per annum, in a dairy of twenty cows.

We once possessed a Devon cow which dropped her calf late in autumn, and from the 10th of December to the 10th of January, including both days, there were made from her milk fifty pounds of well-worked butter—nearly equal to two pounds per day. She was fed with hay, roots and buckwheat bran. We also had a heifer at two years old, from whose milk in the month of June was made one pound of butter per day, on grass alone, and not very good at that.

A Mr. Andrews, of Connecticut, says he made from one of his Devon cows, nine pounds six ounces of butter, in seven consecutive days in the month of January. Another cow of his yielded in ten days in the month of June, on grass alone, one hundred and twenty-nine quarts of milk, making thirteen pounds of butter in the hottest weather of the month. From this circumstance he was induced to try the ten succeeding days, which reached into July, and found the yield to be one hundred and thirty-nine and a half quarts to a yield of fourteen pounds and one ounce of butter, allowing the yield to be the same per quart as in the hot weather. As the weather was much more favorable, he was satisfied it would have yielded fifteen pounds.

The Devon cow Ruby, owned by Mr. W. S. Cowles, of Farmington, Connecticut, dropped her calf in February, made in the month of April following, one pound thirteen ounces of butter per day—equal to nearly twelve and a half pounds per week.

The late Rev. Mr. Colman, in his European Agriculture, says, "The Devons are as a breed most highly and deservedly esteemed." Of their milking properties he remarks, "The North De-

vons have strong advocates as a milking stock. The most productive cow in butter which I have found was a North Devon, which for several weeks in succession, without extra feed, made twenty-one pounds of butter per week. The character of the owner places it beyond a doubt." He gives other cases corroborating the above. These cases and those before enumerated, we think, establish the fact that the Devons, *as milkers*, do not fall behind the "crack" breeds for milking properties.

In our experience we have found great difference existing in all breeds of cattle; some cows run to fat, and those are apt to be spare milkers; the lean and well-formed are apt to be good ones. Some digest their food better than others, and these do better on the same pasture or quantity of food; some feed faster and more constantly, and these are apt to be the best milkers, which run with others of the same pastures. There appears to be as much diversity among cattle in these particulars as among men and women, who may daily sit together around the same table. No error can be greater than that of believing a cow can give rich milk upon poor, lean, spare diet. There must be in the food that which will supply the materials or ingredients of which milk is composed, or else it must be impossible for the cow to produce it. The better the food, the better and richer the milk.

Many of the cows, whose surprising products have been spread before us in our agricultural papers and reports, have had the advantage of great care and abundant and rich feeding either in the pasture or the stall. It could not be otherwise; the effects only followed known causes.

SIGNS OF THE THRIFTY FARMER.

That some farmers thrive while others seem just to drag along, is a palpable notoriety. In looking around among our farmers, and noticing their operations, we have concluded that we could tell the thrifty farmer by a few unmistakable signs, even if we knew but little

about his affairs. You will notice something in his appearance, or the ideas which he seems to be following out, which will tell plainly enough that the farmer is getting ahead in the world.

What are the signs? They are not seen in the richness of his dress or the equipage with which he appears abroad, or in the display which he makes in public places. We have seen farmers out in even splendid attire, with fast horses and fine trappings and carriages, who are slovenish farmers, and whose outstanding debts would more than swing the homestead. No, we must not take such things for evidence of the farmer's thrift. Then again, we do not allow that it is any sign that he is getting "fore handed," when he is seen trading and trafficking, buying, selling and swapping horses, oxen, &c., even though he be a sharper and makes what he calls good trades. Such very frequently go "astern" by wasting their time in hunting up good bargains, and neglecting their farms. These farmers do not love their farming; and they will sell the sure gain and large profits of cultivation for trifling present advantage, often purchased at the expense of conscience and moral honesty. Rather such symptoms are indicative of want of thrift and healthy prosperity.

But when we see a farmer bending all his energies to improve his farm, and making inquiries as to the best methods of husbandry, patronizing agricultural papers, and taking a due interest in agricultural fairs, associations, &c.; when we hear him inquiring for improved stock, seeds and fruit trees, we say that man is bound to prosper. Then when his teams are seen round at the market places loaded with manure, ashes or other refuse matter which can be used to improve the soil, or engaged on a liberal scale in drawing muck, turf, or the like into his yard and filling his manure vats with it, we set it down that he is growing rich. Although he is making great outlays in purchasing and preparing artificial manures, we cannot help thinking that he is putting capital into a bank that will yield great dividends.

The farmer who will excel and thrive *must be a farmer*, and give his thought and study and effort to his calling, the same as the eminent physician, lawyer or clergyman gives all his energies to his profession. When this is the case he will show it, and will be as proud of his farm frock as the parson of his cloak. He will not be clownish or indifferent to his outward appearance, but he will not be ashamed to be found dressed suitably for the farm. He will feel as easy and as much at home in his working garb when visited, as the merchant is behind the counter, or the lawyer at his office. When we meet a farmer about his appropriate business, who holds up his head and shows a manly dignity, and yet is courteous, if thrown among gentlemen of the cloth, we conclude that there is a man who values his manhood, and is proud of his noble calling; that is the man who will thrive and secure a plentiful board for himself and family, and contribute something towards the support of the rest of mankind.

ABOUT SALT.

THAT universal table relish, salt, is a chemical compound of twenty-three parts, by weight, of a beautiful silver white but soft metal, called sodium, discovered by Sir Humphrey Davy in 1807, and thirty-five parts of a pungent, yellowish green gas, called chlorine, discovered by Scheele in 1774. This most useful compound is found in the sea and in the rocks, from which our principal supply comes. The most wonderful deposits are found in Poland and Hungary, where it is quarried like a rock, and to a great depth. Other large deposits are found in Cheshire, England, where the water is forced down by pipes into the salt and pumped up as brine, which is evaporated and the salt obtained. To such an extent has this been carried that one town in the salt region has scarcely an upright house in it, the foundations having been undermined by the extraction of the salt. At Northwich, in the valley of the river Weaver, in England, there are two beds of rock salt, together not less than sixty feet thick, which are

supposed to constitute large insulated masses, about a mile and a half long, and nearly thirteen hundred yards wide. In Virginia there are beds of salt, and the Salmon Mountains in Oregon contain large deposits of the same material. The beds or masses of rock salt are occasionally so thick that they have not yet been bored through, although they have been mined for many centuries. This is the case with the mines at Wiczekka in Austrian Poland, and the lower beds at Northwich, England. The brine-springs of Salina and Syracuse, N. Y., are well known. There are also extensive salt-springs in Ohio. The brine is pumped up from wells made in the rock into which it flows. The brine is put into large iron kettles, under which fires are built, and the process of evaporation proceeds rapidly. Salt beds are found in nearly every strata in the earth's crust, which shows, says the *Scientific American*, that as the majority of these salt beds have come from lakes left in the hollows of the rocks by the recession of the sea, the sea has through all geologic ages been as salt as it is to-day. An illustration of this fact is found in the Great Salt Lake, which is the largest salt lake in the world, but by no means the only one, as such inland masses of saline water are found over the whole earth. It is situated 4,200 feet above the level of the sea, among the Rocky Mountains, and has an area of three thousand miles. Yet high as is the lake, it was once a part of the sea, which retired by the upheaval of the rocks, and that great basin took its salt water up with it. Should this in time evaporate, and its salt become covered with mud and sand, and the land again be depressed, it would become a part of the earth's crust, and the people of future ages would wonder, perhaps, how it came there. There are also, however, salt rocks taking their place in regular geologic series with other rocks, and which can be accounted for only as other stratified rocks, viz., that they were deposited from their solution in water or carried mechanically to the spot where now found by the water.

The ocean is, however, the most magnificent mine of salt, since the chloride constitutes about one-thirtieth part of its weight. In warm regions the salt is extracted from the ocean by means of natural evaporation, as at Turk's Island, where great quantities are every year obtained in this way. Large shallow basins, called tanks, or brine reservoirs, the bottom of which is very smooth and formed of clay, are excavated along the sea shore. Between them and the sea large reservoirs, deeper than the proper brine-pits, are excavated. These communicate with the sea by means of a channel provided with a sluice. The basins where the sea water is evaporated are divided into a number of compartments by means of little banks. All these compartments have a communication with each other, but so that the water has frequently a long circuit to make, from one set to another. Sometimes it must flow four or five hundred yards before it reaches the end of this sort of labyrinth. The water of the sea is let into these reservoirs in the month of March, and is exposed on a vast surface to evaporation. The first reservoir is intended to retain the water till its impurities have settled, and from it the other reservoirs are supplied, as their water evaporates. The salt is considered to be on the point of crystallizing when the water begins to grow red. Soon after this a pellicle or thin saline crust forms on the surface, which breaks and falls to the bottom. This, the salt, is drawn out, and then left upon the borders to drain and dry. The salt thus obtained partakes of the color of the bottom on which it is formed; and is hence white, red or gray. On the coast of San Francisco there are extensive natural salt pans, which furnish an abundant supply of excellent salt. In France and Germany salt water is pumped into great cisterns on the tops of towers, whence it is allowed to flow down the surface of bundles of thorns built up in regular walls between wooden frames, which are exposed to the wind, in order to promote evaporation. After the brine has been thus concentrated, it is boiled down.

CHEMISTRY OF AGRICULTURE.

In the early part of last summer we discontinued these articles, with a view to commence them at a less pressing season.

We had spoken of the composition, changes, and agricultural uses of water ; also of carbonic acid, a substance from which growing plants receive, mostly from the air, about one half of their solid matter ; and of ammonia, its composition, its sources, and its offices in promoting the growth of plants.

We showed that from these three—water, carbonic acid, ammonia—come nearly all the organic elements of vegetable growth. By organic elements are to be understood those that are dissipated by heat—pass away and are lost in the air, when a body is burned. They are oxygen, hydrogen, carbon, and nitrogen. By inorganic elements are to be understood those which remain, as ash. The principal ones, which pass from the soil into plants and from plants into the animal structure, are *potash*, soda, lime, magnesia, alumina, silica, and oxide of iron. Of these we propose to speak, in this and a few succeeding numbers, in the order in which they are here enumerated, and with as practical an application as we can make to the business of farming.

Potash.—The basis of this compound is potassium. This is a silver-white metal. It has very much the appearance of silver ; but unlike silver it corrodes when exposed to the air ; and if put upon water, or ice even, it instantly takes fire and burns with deep red flame and a very great heat. In burning it takes oxygen from the water and becomes an oxide. This is known in the shops as caustic potassa, and is a vio-

lently corrosive compound, consisting of thirty-nine parts of potassium to eight of oxygen. If exposed to the air it takes carbonic acid from it and becomes carbonate of potash. This is the potash of commerce—the same that is used in soap-boiling and for agricultural purposes, varying in price, as the market is well or ill supplied, perhaps from six to nine cents a pound. When combined with a double portion of carbonic acid it forms what in commerce is called *bicarbonate of potash*, or more commonly saleratus.

Potash, mixed with silica, (sand, grit, flint-stone, quartz-rock,) causes it to melt on the application of heat. It is thus that glass is made of potash and sand. Sand alone cannot be melted and blown, or pressed into any desired form ; but sand and potash together are easily melted, and become a silicate of potash. Now, both the carbonate and the silicate of potash exist in rocks, more in some and less in others, but in some degree in all. But soils we all know are the *debris* of rocks—rocks pulverised—ground down to a greater or less degree of fineness. Consequently the potash which was once in the rocks should be found in the soils made from them. It is found in them, and they are generally rich in this ingredient or otherwise, according as their underlying rock contains much or little potash.

The way we obtain potash from the soil is : that first it passes, as plant food, into the growing tree ; we cut down and burn the tree, and then the potash is in the ashes ; but being very soluble we dissolve it out with water, and then it is in the ley ; if we then evaporate the water, we have the solid

carbonate of potash, in a crude state, very impure, but fit for the common purposes of soap-boiling, glass-making, application to plants, etc.; by purifying the refined pearl-ash, and then combined with more carbonic acid, we have bicarbonate of potash, or saleratus, for cooking purposes.

The office of potash in the soil seems to be two-fold;—first, to feed plants with its own substance; second, to dissolve other substances, which the plant requires, but cannot obtain till they are first dissolved. The mouths, at the end of the rootlets, through which all the mineral plant-food passes, are inconceivably small, probably not the thousandth part of a hair's breadth in diameter, and therefore the food has to be in a perfect solution before the plant can receive it. Probably nothing can enter the root of a plant that could be distinguished by the eye from the purest water. We may consider that plants drink but do not eat—like the Englishman, who thought that food for the human stomach should be in a liquid state, and so took his in the form of old, well-fermented ale.

A good soil, rich in all the requisites of fertility, contains all the way from a quarter of one per cent, to seven per cent of potash. The latter would give, in the soil of an acre, one foot in depth, 2800 lbs. of potash, estimating the weight of the whole soil to that depth, at 2000 tons, which would not be far from the truth; the former would give 400 lbs. to the acre. Poor soils often contain much less, in some cases only the merest trace. From these statements, we might infer that potash, in the form of wood ashes, or green sand marl, or some other fertilizer containing it largely would benefit some soils much

more than others—a sandy soil, for instance, in which there is little of this ingredient, much more than a granite or a green stone soil abounding in it. This agrees perfectly with the testimony of farmers, some of whom tell us that ashes always pay well on their land; while others say they are of no use on theirs.

But if we should conclude that potash is valuable in a soil, just in proportion as it is poor in this ingredient, we should be in an error; for not all the potash in a soil is in a condition to be taken into plants. Hence it might happen, that a soil, abounding in potash, might be benefitted by the application of more. Certain plants, among which are potatoes, tobacco and turnips, are sometimes called potash plants, from the fact of their consuming much of this substance in their growth. At the head of this class is the potatoe, which perhaps requires more potash than any other plant. Now it might happen that the potatoe would not do well in a granite soil without manure, not because there is a lack of potash in that soil, but because it is not in a condition to be taken up by the plant. It is now pretty well understood that the elements of soils have to go through the lower orders of plants before they become suitable food for the higher orders. For instance, a recently pulverized granite rock might not produce wheat at once; but if it should produce lichens, mosses, polypods, &c., and these should be decomposed and returned to the soil, the potash and other ingredients might have become prepared, by passing through these lower orders of plants, to nourish the higher orders, as wheat, barley and other cereals. Potash may be regarded as an important element in

the food of man and of the higher order of animals generally. As it comes from the old granite rock, we should be slow to recognize it as food ; but when it has passed through the lichen, the moss, the fern, and so on up, and comes to us, after it has been through vegetable and animal organism perhaps a thousand times, as a part of a wheaten loaf or a well cooked potatoe, or in nice butter and cheese, we are not apt to spurn it, especially if we happen to be hungry at the time.

But let us see whether we can account for the fact that potash improves some soils more than others, and improves them more for some crops than for others, and whether anything of practical utility can be inferred.

If there is little or no potash in a soil, it will be safe to conclude that ashes or some other fertilizer containing much of this ingredient, will be beneficial. There are two ways of ascertaining that a soil is destitute of potash, or but poorly supplied with it ; first, by a chemical analysis, which we cannot recommend ; and second, by the more common-sense way of observing what crops it has produced, and what it has refused to produce. If it has produced pretty well any or all of those crops, which are known to require much potash, as potatoes, turnips, tobacco and clover, and if it still produces them well, it would be safe to infer that there is plenty of potash in that soil. But if a piece of land, apparently of a fair quality, refuses to produce these crops, it may be inferred, either that it does not contain potash, or that the potash contained in it is not in a condition to feed the higher orders of plants, and in either case that an application of wood ashes,

or other fertilizer containing much potash, would be useful.

Barn manure, that has not had the fertilizing properties washed out of it, contains considerable potash, as it does also everything else required by plants. If, therefore, there were enough of this on a farm, nothing else would be wanted. But as there is not, the farmer should use all the ashes he can get, and especially for these crops which contain much potash, unless, after a thorough trial, he has fully proved that they do not suit his land. On most land, ashes are excellent for clover, though in this case the good effect may be, and probably is, quite as much due to the lime they contain, as to the potash. The general effect of ashes on mow land, is to bring up those grasses which are sweet and nutritious, as red and white clover, and to run out the dry, wiry grasses. It is the same with old pastures. We have never yet tried the experiment of throwing a few ashes on an old turf, either mowing or pasture, (and we have tried it often and in a great many places,) without a manifest effect being produced, not less to improve the quality, than to increase the quantity of the growth. On most land, indeed on all that we have known *practically*, we would sooner have ashes, if we could get them, *at fifty cents a bushel*, (about three times as much, we believe, as anybody ever asked for them,) than Peruvian guano *at \$50 a ton*, less by ten dollars than it can now be had.

Our conclusion is, that ashes are good for nearly all soils ; and whenever they have been reported as useless, it is either because those who have used them, have not had their eyes wide open to

see the good effects, or because there was already enough potash in that soil, and in a state to be taken up by plants.

It has often been remarked that the black swamp muck that so much abounds in northern temperate climates, is very much the same thing as barn-yard manure, except that it has been deprived of its soluble salts. Now the principal ingredient, that has been washed out of it, is its potash. The red color of water running from swamps is doubtless owing, in a great measure, to the coloring matter from roots; but it is due in part, and no inconsiderable part, to the potash from decaying vegetable matter. The red water is a sort of weak ley. Hence the inference, that such water is doubly valuable for purposes of irrigation, whenever the ground is of such a form as to admit of its being turned upon grass land.

Water flowing, as we sometimes see it, from barn-yards, owes that same deep red color, in no small degree, to a like cause. It is a ley, in which the potash of the manure, together with other fertilizing matters are running away. A farmer might as well have a hole in his purse as in his barn-yard. If the outer sides of the yard are a little higher than the centre, nothing will run from it, and the salts which naturally belong to the manure will be found in it, when applied to the soil.

Leached ashes are worth almost as much for clover as unleached, by reason of the lime contained in them, clover being fond of lime as well as of potash. In Sunderland, Mass., where more ashes have been applied, perhaps than anywhere else, farmers have told us that they value leached ashes almost as highly as unleached. Whether that

opinion is correct we are not positive; but that leached ashes possess a good deal of value, is very evident, first from their analysis, but more, in the next place, from the testimony of farmers who have long used them. Like many other fertilizers, ashes furnish but little organic matter, and, therefore, they should not be depended upon alone, for a long series of years, on any given soil, unless green crops are plowed in to supply organic matter.

We cannot close this article without commending the green sand marl, as a most valuable manure, to all so situated that it can go by water very near their land. It is a cheap, but not very portable manure. It contains a large amount of potash; its potash, like that in wood ashes, is in a condition to be appropriated at once by plants. It is almost the only manure we know, which can be relied upon to act promptly, and yet to better the land for long years to come. By farmers far inland, it cannot be availed of, because of the expense of transportation; but those on the seaboard, or on banks of navigable rivers, where it can be had for 10 to 12 cents a bushel, including transportation, will certainly use it plentifully, if they consider on which side their bread is buttered. It has been shown in another article in this number, that when you buy Peruvian guano, you fatten certain vampires, between you and the Chincha Islands, to the tune of at least \$30 a ton, in exorbitant profits; when you buy the New Jersey green sand marl, you pay about seven cents a bushel at the shipping place. The difference goes to your own countrymen for the labor of transportation; and the profit goes to yourself; and you may depend upon it,

that for every bushel you use, your land will not only produce better the first year, but will be better, longer than you or we shall live.

DUTTON CORN--ITS ORIGIN.

THIS corn we have commended as the best we have known. We are pleased to see that the *Homestead*, published at Hartford, Conn., is of a similar opinion. That journal says: "It has fairly earned by good fruits its reputation, and we believe it will be long before another so beautiful and productive and early variety will claim the popular favor." Its origin seems to have been in Bedford, Mass. We cut from the *Homestead* the following account of it by Mr. Dutton, whose name it bears. It was published in the *Vermont Republican* and *American Yeoman* in 1819:

A NEW SORT OF INDIAN CORN.

Messrs. IDE & ALDRICH.—If you will be kind enough to publish the following lines in your useful paper, it may be of essential benefit to the public, especially to enterprizing farmers:

As I was on my way to Boston, in October, 1817, an acquaintance of mine told me that a man in Bedford, by the name of Porter, had raised that year a new sort of Indian corn, that was early and large. Our corn having been cut off by the frost for two or three years, I was anxious to embrace an opportunity to get an earlier sort; and the eight-rowed corn was so unproductive, I did not choose to plant it, and had not for many years. I therefore called on Mr. Porter, who took me into his corn-house, where he showed me the handsomest bin of corn I ever saw. The ears were large and bright, and from eight to twelve inches long; and there were ten to eighteen, generally

from twelve to sixteen, rows on an ear. Mr. Porter told me that it was a fortnight earlier there than the little eight-rowed Canada corn. I bought about three pecks of it, a part of it in the ear to show its quality. I gave away several quarts of it to my friends, on my way home.

On the 28th day of May, 1818, I planted a piece of ground containing eighty-four rods by exact measurement, with some of the said corn. I furrowed my ground about three and one-half feet apart one way. I then took yard manure that was carried out and laid in large heaps, the fall before, and spread it all along in the furrows. I then took a horse and plough and turned the furrows right back on the manure. I then put three kernels in a hill, and planted the hills about twenty inches apart, which made it about twice as thick that way as the other. It grew very large, and was much admired. "I never saw the like," was the general expression of all who noticed it.

Some of my neighbors wished me to ascertain the quantity that grew on that piece of ground, which I have done as nearly as I could with convenience. In September I picked for seed the first ripe ears all over the piece, and traced up just twenty ears in a trace, and had one hundred and sixty traces, which contained three thousand two hundred ears. I have since shelled out a small part of it, and calculated the remainder by what I have shelled, and find the whole to amount to twenty-eight bushels. The forepart of October I gathered the remainder, and had it husked out in one evening, and laid it in a heap in my corn house: and the next day we picked it over, and that which was sufficiently dry to put into the bin, we measured

in a basket which holds two and one-half bushels of shelled corn, and had twenty-six baskets, which we judged would be as much or more than twenty-six bushels of shelled corn ; which together with twenty-eight bushels of seed corn, make fifty-four bushels ; and we concluded that the part which was not used to put into the bin was equivalent to the four rods which the piece of ground measured over half an acre : and by the cobs found in the field we judged that the hens and turkeys had devoured four or five bushels. I therefore conclude that the whole product was as much as the rate of *one hundred and sixteen bushels to the acre!*

It being a good season for corn, doubtless I should have had a large crop, if I had planted my old sort ; but I presume not so much, by more than one-quarter. This I ascertained, by planting some side by side, and found its produce to be less than the new sort by more than one-quarter.

Finding this new corn to be so valuable an acquisition, and wishing to have it propagated as much as possible, I saved a large quantity of it for seed ; and that there might be a small beginning of it at least in each town in the state, I took one hundred and fifty ears of it last October, and carried them to Montpelier, that the members of the legislature, who live so remote that they would not otherwise have an opportunity to obtain it might each of them take an ear.

SALMON DUTTON.

Cavendish, Vt., Feb. 15, 1819.

NOTE In the anatomy of the hand, we find that the muscle by which we shut it is much stronger than that by which we open it, and this holds true as to giving and receiving.

"WITCHCRAFT" AND AGRICULTURE.

PLINY has recorded the story of an industrious and ingenious husbandman, who being in advance of the knowledge of his time, cultivated a small piece of ground upon an improved method, by which he gathered much more fruits, and reaped larger profits than the neighbors about him, though their possessions were more ample. His uncommon success excited their envy, insomuch that they brought this accusation against him : "That by sorcery, charms, and witchcraft, he had transported his neighbors' fruits, fertility, and increase to his own field." For this he was ordered peremptorily by Albinus, a Roman general skilled in agriculture, to answer the charge before him. Cressinus, fearing the issue, resolved upon his best defence, brought his plow and other rural implements, and displaying them openly, he set there also his daughter, a lusty, strong lass, big of bone ; then, turning to the citizens—"My masters," quoth he, "these are the sorceries, charms, and all the enchantments that I use. I might also allege my own travel and labor, my early rising and late sitting up, and the painful sweat that I daily endure ; but I am not able to present this to your view, nor to bring them with me into this assembly." This bold and open defence captivated the people ; it proved the *coup de main* which turned a doubtful result to his entire favor : he was pronounced "not guilty," and those present took note of his inventions. This story, though not strictly belonging to the history of our own island, is derived from those who are said to have first taught to the Britons the art of husbandry. It may, therefore, be fairly employed to show that the first improv-

ers of agriculture had their days of trial ; that in all ages and countries, and in every path of inquiry and invention—in the discovery of the rotation of crops, as in that of the rotary motion of the earth—a Galileo has had to answer for his daring, before some embodiment of ignorance constituting an inquisition.—*Philip's History of Progress.*

RURAL PASTIMES.

DO—It is written, man shall not live by bread alone. It is not enough that we have plenty to eat and drink, fine clothing, comfortable houses, and productive farms. Every man owes it to himself, his family, and his country, to cultivate all those qualities of mind and heart which delight in beautiful objects, which are susceptible of moral and religious growth. And as *home* is the cradle of all virtues, and as external adornments, especially those natural ones, which lie within the reach of every citizen of our favored land, such as trees, shrubs, flowers, tasteful lawns, arbors and trellises, are the strongest means of making home attractive, it should be the desire and labor of all good men to diffuse throughout the community a sentiment of regard for rural work and pastimes. To do this lies within the power of no one man or woman ; all should make it their object, and he who labors most will have the satisfaction of knowing that he has faithfully done his part towards accomplishing the great work of the age.

WHAT ENGLAND PAYS IN ONE YEAR FOR MANURE.—It is estimated that England pays annually three hundred millions of dollars for manure, more than the entire commerce of that country. The total value of a year's crop has been

reported to Parliament, some time ago, as being about three thousand millions of dollars ; the crop includes the animal as well as the vegetable.

Sheep-Killing Dogs—a Remedy against

I am of the opinion that nothing short of a steam whistle will serve to frighten as mean a thing as a sheep-killing dog, and I have tried two remedies, which, if you think they are worth the trouble of printing, you can insert in your valuable paper at some time.

The first is to put a fifty to the pound rifle ball through the dog's head, that is a never-failing remedy ; but as there are some persons who are possessed of a considerable amount of dog sympathy, and do not like to see good dogs killed, if they do kill sheep a little sometimes, I will send you the following remedy, which I have never known to fail.

Select the stoutest and most vicious old ram in you flock and shear him close, then get you a small Manilla rope, thirty-five feet long, and tie one end around the ram's neck and the other around the dog's neck, and turn them into a ten acre field, well cleared of stumps, brush and corn-stalks, and let them remain two hours, and if that old ram don't knock all the sheep-killing propensities out of that dog, why, then, as Samuel Stonestreet would say, "I hope I may never see chinkapin time again." That dog will never have courage to look a sheep in the face again. Try it all that have sheep-killing dogs, the fun of itself will pay well.

Woodstock, Ala., 1858.

J. H. G.—*Cotton Planter.*

DO—As the soil, however rich, says Seneca, cannot be productive without culture, so the mind, without cultivation, cannot produce good fruit.

NEW SEEDLINGS.

BY A. S. FULLER, HORTICULTURIST, BROOKLYN, L. I.

WINTER is again upon us, and with it come leisure hours for reflection. We can now think of the summer that is past and of the new fruits we have eaten and flowers we have seen for the first time. They are few in number, but in that few there is such an improvement over some of the older ones we feel encouraged to go on and try to increase the number ten fold if possible another year.

Why should there be so few new fruits and flowers that are really good? Is it because we have arrived at that point where dame nature says to her votaries, "Thus far thou shalt go and no farther." We hope not, for if such was the fact half the charms of horticulture would be gone.

A new flower, a new fruit, there is a charm in the very name that leads the lover of horticulture forward, gives him strength to toil through the long summer day, refreshing sleep at night, and wakes him at early dawn and invites him to the garden to see the flower just opening with its petals bathing in the morning dew, and the fruit he looked at last night has a deeper blush upon its cheek to-day, and promises to be yet more beautiful. The bed of seedlings which has received his watchful care, with their varied leaf and stem, some seem to have gone back to their primitive state, while others, strong and vigorous, show unmistakable signs of superior excellence, all of which delights him and strengthens his hope of something really good in these variations of Nature, which he will be proud to call his own seedling.

How many of the readers of the FARMER'S MAGAZINE have done their

part towards raising something better than they now have, by sowing seeds of their best fruits and flowers the past season? Have you sown seeds of your largest and best pears, apples, plums, and cherries? The seeds of that fine rose you passed every day, and saw those fine haps of seed almost asking you to pick and plant before the winter came and destroyed them.

How many seeds have you saved of the choice grapes which you have eaten at home or abroad? Have you saved some of the largest cherry currants you had? If you have done this, and have them all sown in a well-prepared bed we are sure you will be well rewarded in years to come.

Amateurs as well as the professional gardener are waking up. New things are coming forward in greater abundance every year. Individuals are sowing seeds of choice fruits in every part of the country, but their numbers are comparatively small—not one in a hundred that might do so without feeling the loss of time.

We hope it will not be long before the ten thousand amateurs and nurserymen of this country will feel that it is their duty to raise something that will be a benefit to the country and an honor to the originator.

Very few of the choice fruits which we are so proud to call *American* seedlings have been grown from seeds sown for the purpose of raising something new. Nine-tenths of all our fine American pears are accidentally found growing wild in some old hedge where the farmer boy had neglected to clean up the brush around the fence, as his father had told him to do. Many thanks for his indolence, if the old fence did rot a little too

soon by being in the shade, the world has gained a few fine pears, such as the Lawrence and Seckle, which will be hard to excel even by the scientific Pomologist with all his hybridized seedlings.

If we have obtained so many fine fruits from these accidental seedlings how much more might we expect if we would lend a helping hand and assist nature to rear those things that spring spontaneous from her bosom.

We should protect those tender plants while young, and throw nothing away until its worth is known.

How much this country would have lost if that lady, Mrs. Peak, had neglected to rear that little plant which has proved to be such an acquisition—the Rebecca Grape.

In that plant we have a foundation on which we can build our hopes of getting a grape that will rival the famous Muscats of Alexandria.

Let every one who has a rod of ground strive to make an advance step, for he that truly makes it will gain honor and that one thing needful, money.

New fruits and flowers that are really good always have paid and always will.

A. S. FULLER.

In a conversation with Mr. Fuller a few days since we learn that there is a seedling from the Rebecca grape that promises to equal if not excel its parent. It is similar in color, but oval instead of round.

He has now in his possession a new Blackberry, a Hybrid between the Lawton and the White, of great excellence. It has the strong vigorous growth and productiveness of the Lawton, but with small spines. The fruit large, color yellowish, flavor sweet and delicious.

It gives us pleasure to see so many fine fruits coming forward every season.—*Ed.*

WHAT CHEMISTRY HAS DONE FOR AGRICULTURE.

It is not true that chemistry has yet done all for agriculture which the following, from the *New Yorker*, ascribes to it; but it is *doing all* and will do more. The application of chemistry to all the useful arts, and especially to the art of arts—soil culture—is truly wonderful, and will be more and more so, in its influence on human welfare :

"If it be asked what has been practically gained within the last twenty years, by the investigations of the agricultural chemist, we answer much, certainly. We knew many years ago that farm-yard manure was excellent; by the art of chemical science we learn why it is a "perfect universal manure," we learn how to manufacture and employ it best, and we learn why, on clay soils, it may be safely, nay advantageously, left for weeks upon the surface before being plowed in. Chemical science again teaches us why lime, which is not an active manure, although valuable as a destroyer of elements hostile to fertility, produces great effect for several years, and then not unfrequently ceases to show any profitable results; it teaches us to what crops guano, to what superphosphate of lime, to what farm-yard manure may be most profitably applied, and when a mixture of all three. Chemistry settles the comparative value of linseed cake, cotton cake, and karob beans; shows when pulse should be used for fattening pigs, and how to compound a mixture of Indian corn and bean meal which shall produce fat bacon neither hard nor wasteful. The conclusions of science were previously known empirically to a few, but their range was limited, and their application accidental. They have been reduced to

order, and rendered universally available for the use of the plain farmers, by such men as Lawes and Völcker. As the latter observes, 'there are too many modifying influences of soil, climate, seasons, etc., to enable us to establish any invariable laws for the guidance of the husbandman'; but the more we can trace effects to their causes, and ascertain the mode in which nature operates, the nearer we are to fixed principles, and the sure rule of practice."

TO DELAY BLOSSOMS.

ANY fruit tree may be made to bloom sufficiently late in the season to prevent its fruits from the frost, and consequently present a fine, heavy crop, by the following judicious treatment:

In the middle of winter, when the ground is most severely frozen, put a large pile of wheat straw or oak leaves around the roots, letting it extend for some distance in every direction, so as to cover the extended roots that approach the surface of the earth. Cover this pile with planks or boards, so that no rain can fall upon the pile. Let this cover remain until all danger from frost has passed. Then remove the cover and straw, and look for a splendid crop to follow soon.

The rationale of this simply is: the frozen earth will not thaw until late in the spring, if the pile remain; and while the earth is frozen the tree cannot bloom; but when the danger is past, remove the covering, and the tree will bloom forth speedily. Try it, farmer friends.—*New Yorker.*

BONES FOR FRUIT TREES.

IF nothing better can be done with the bones that accumulate about villages and country residences, for want of a bone mill at hand, and other conve-

niences for converting them into a superphosphate, they may be broken up, more or less finely, according to their toughness, and mixed with the manure about fruit trees. There is no fruit tree but that is benefitted by the application. For pears, apples, quinces and grapes, they are excellent, giving vigor and health to the tree and fairness of fine flavor to the fruit. Ashes are good for all these fruits. With ashes to furnish the alkalies and bones to supply phosphoric acid and lime, a tree can hardly fail to flourish and to produce fine fruit of its kind. In the days of our fathers', when the soil was a virgin soil, and there was little to do but to transplant a tree into the soil, to ensure a vigorous growth, there was little need to enquire what a tree feeds upon. Whatever it requires was in the soil, and that was enough. Now it is otherwise, and it is a good plan when you transplant a tree, to mix with the soil from a peck to a bushel of crushed or broken bones, as this will ensure to it one of the most important items of its food for many years to come.

PLANTING TREES.

A young friend writes: "I am now about laying out a small orchard for apples, pears, plums, peaches, &c.; also about setting some fruit and ornamental trees about my house, which has been neglected long enough," and solicits our advice.

By all means lay out your orchard, and plant your trees, and do it without delay. You are beginning with the right spirit. A gentleman whose farm is famous for fine avenues of maples, told us recently that the first work he did when he took possession of it, was to plant those trees. They have been to him a source of continual delight, they have refreshed the heart of the

passing traveler, and they have proved a rich exemplar for every one to follow, who would most cheaply decorate a rural scene.

We like to plant trees; we wish that we could say that our success in caring for them, in protecting them from all dangers, and supplying all their wants, equaled our delight in planting them. We have learned much from that dear schoolmaster, experience, and our readers shall have the benefit of our pupilage. We have been reasonably successful, but an occasional failure has taught us caution. Too many are apt to consider that a tree once planted will take care of itself; and in estimating the cost of an orchard, they only count the expense of the trees, and the labor of setting them out. There is no more fatal error than this. The sooner this idea is abandoned the better. Not one tree in fifty, with the ordinary preparation of the soil, if left to itself after planting, will finally develope either as a fruit, or a shade tree. The perfect trees are the exceptions. We hear of one here and there which regularly yield astonishing crops. Is this success attainable by any means in our power, so that the same results may be secured in orchard culture? We think that to a great extent it may be. We can so treat our corn fields, that we can raise with tolerable certainty, either fifty or one hundred bushels per acre. So an orchard may be so treated that both growth and productiveness shall in one case be double what it is in another.

Briefly then, what are the conditions necessary for the healthy and most satisfactory growth and productiveness of trees? A sheltered aspect is desirable, that the branches may not be broken and twisted by the winds or ice, or the fruit prematurely shaken from the boughs.

A deep, strong, and mellow soil is also desirable. In a shallow soil the roots are exposed to every change of temperature, and degree of moisture. Strength of soil not only gives vigor to the tree, but high flavor to the fruit.

Stones and gravel in the soil keep it loose and open, and favor the spreading of the roots.

Thorough draining is essential, either natural or artificial. It insures the ripening of the young wood even in very rich and strong soil, so that it can endure the winter, and starts with vigor in the spring. The earth saturated with water prevents all access of air to the roots, and the starving and diseased condition of the whole system shown by moss covered limbs, feeble and spotted leaves, gnarly and immature fruit.

Healthy vigorous trees with well formed heads, if of much size and with symmetrical roots, these being of more importance than the top, will alone give satisfaction. The best care often fails in attempting to invigorate a diseased tree, and its contracted vessels can never allow the free circulation of its sap.

We will not dwell at length upon the necessity of a proper selection of varieties adapted to the particular section, care in planting with proper fertilizers, (use no fresh manure) the comparative advantage of spring or fall planting, (if in the Fall do not allow the roots to freeze while out of ground) the host of enemies to be provided against, that the planter may enjoy the fruit of his labors, biped, quadruped, and those with an indefinite number of legs, all these cares will test his patience and foresight, but the pleasures of triumph over these difficulties, will pay the account in Fall, and leave a large balance in favor of the cultivator.—*Homestead.*

ROSE CULTURE.

Four things are absolutely essential in high rose culture—a rich and deep soil, judicious pruning, freedom from insects, and watering when requisite. If any of these be wrong, the success will be in proportion incomplete. Soil is the first consideration; what is termed a sound loam, they all delight in. The soil should be adapted to the stock, rather than the scion or kind worked on it. The common, or dog rose stock,

thrives best on strong loamy soil, in half-shaded situations near water, without manure. Cultivated roses require the latter, because they have more hard work to do ; their amount of blossom, if weight alone be allowed as a test, would, in most cases, doubly and trebly exceed that of the dog rose, added to which they have less foliage.

Roses, on their own roots, require that the soil be modified according to kind. We should not use so adhesive a soil to a Tea or Bourbon rose, as to ordinary kinds ; organic matter is here required. Depth of soil is of great importance to all kinds. It is the deeper series of fibres, situated in a proper medium, that sustains a good succession of flowers in defiance of heat and drouth.

Judicious pruning reduces the rampant growth, and increases the energy of those which are of a more delicate constitution, relieves from superfluous shoots and useless wood, and reduces the whole outline to a compact or consistent form. Insect ravages must be guarded against — tobacco water or fumes will do this ; bathing them twice a day with water from a barrow engine is only objectionable from the time required. If you have not provided deep culture, watering, in dry times, will be requisite ; but this should be done thoroughly rather than frequently, and the surface soil should be frequently stirred without injuring the roots. Liquid manure, say two ounces of guano to a gallon of water, should be given once a week. With this treatment every one may have fine roses."—*Ex.*

PEAR SCIONS.

MUCH has been said in disparagement of Pear Scions for permanent bearing stocks, and doubtless there is some reason in the objections urged against them ; yet were I in want of good sized pear stocks I should not hesitate to use them. It is said that they will never make thrifty trees. My experience does not corroborate this

allegation. It is also urged that they are prone to throw up suckers. Neither do I find this true. About the year 1812, I went with my father to a neighboring farmer's hedge, from which we selected about a dozen scions from six to eight feet high. These were brought home and planted out, with no extraordinary care, around the dwelling : and their subsequent treatment was very similar to that commonly bestowed upon apple trees in the orchard. After they had become well established, we grafted with Virgalieu and other varieties. Nearly all of them are still standing, and after having borne fine crops for many years, are now in progress of re-grafting in consequence of the general failure of some of the old varieties in this quarter. Until this operation was commenced, not a solitary sucker was to be seen around them ; but on cutting off the top and principal branches, they came up abundantly. Some of them are already producing fine fruit from the newly engrafted branches. These trees have always exhibited a vigorous habit, and cannot at this time be less than sixty years old. I have seedlings, grown in my nursery, now planted out and bearing, and at the same time have scions of various ages, and judging from close observation, the scions are generally the most rapid in growth. This view of the subject will be deemed heterodox by many, but it is based upon facts, and I prefer them to theory. R.M. CONKLIN.
Long Island.—Country Gent.

MELONS EARLY WITHOUT HOT-HOUSES.

—The first requisite is dry land with a southern exposure, or sheltered on the north by fences or buildings. Second, deep plowing and a thorough pulverization of the soil. I then dig holes

four feet one way and six feet the other, sufficient to hold two shovels of good hog manure, well packed, made the previous fall and kept sheltered ; then put on about two inches of soil mixed with one pint leached ashes. Plant your seeds, and I assure you melons and squashes will grow. As a protection from early frosts, as well as bugs, I use boxes made as follows : weather-boarding 6 inches wide, two of them sawed 14 inches on one edge and 13 on the other, and two of them fifteen inches on one edge, and fourteen on the other, making a square 13 inches on top, and 14 on the bottom on the inside. I then nail cheap cotton cloth upon the small end ; it admits air, and protects from frost and bugs. Being beveled, these boxes may be packed in small compass. For squashes, they must be larger, and can be removed in the day time and saved for years.

DAYTON SIGLER.—*Tennessee Farmer.*

THE PRESERVATION OF CIDER.—Prof. Horsford sent the following receipt for preserving and improving cider, to the Massachusetts Horticultural Society, at its last meeting :

CAMBRIDGE, Oct. 25, 1858.
To the President of the Massachusetts Horticultural Society :

DEAR SIR.—I beg to enclose a receipt for improving cider. The object to which my efforts have been directed was to provide a cheap, easily managed and perfectly safe agent for arresting fermentation at any desired stage of its progress.

The fermentation of the sugar of the cider, it is well known, is due to the fermentation of an albuminous substance which the cider holds in suspension or solution.

By fermentation, the sugar is first converted into alcohol and carbonic acid. If the albuminous matter be in great excess, as it uniformly is, its fermenta-

tion goes forward to convert the alcohol into acetic acid, and the cider becomes sour. If the quantity of sugar be large, a corresponding quantity of alcohol will be produced. When it is not in sufficient quantity, it may be added to the cider, and more of the albuminous matter consumed to produce alcohol and carbonic acid, and, of course, less will remain to convert the alcohol into vinegar.

But if, when the fermentation has been carried forward just far enough to impart to the cider the taste which is most preferred—when it is sparkling, still sweet, but slightly acid ; if at this stage the albuminous matter be withdrawn, the cider will permanently retain its acceptable flavor.

To accomplish this withdrawal, I employ sulphate of lime—a salt made soluble only by acid, and, of course, quite inert until acid presents itself to the cider. As soon as fermentation produces acetic acid, this salt yields sulphurous acid, which destroys the ferment. This is essentially the agent employed to prevent fermentation in the wine production of France.

The substance I employ settles out at the bottom with the lees, and may be entirely separated from the cider.

The testimony of quite a number of friends, who have for the last three years followed the receipt, as well as the experiments I have myself directed, are so emphatic as to the excellence of the result, that I feel justified in submitting to the attention of the Horticultural Society, this method of improving cider.

I am, very respect'ly, your ob't sv't.
E. N. HORSFORD,
Prof. of Hor. Chem. to the Mass.
Horticultural Society.

THE COOK, the housemaid, and the laundress, are the pillars on which our domestic comfort rests. Without them, nothing is possible in family or individual life. The well cooked dinner, the tidy room, the clean shirt, are the landmarks of true civilization. Below them all is barbarism.

WINTER SHOES.

HALL'S *Journal of Health* gives the following sensible advice :—“Like the gnarled oak that has withstood the storms and thunder bolts of centuries, man himself begins to die at the extremities. Keep the feet dry and warm, and we may snap our fingers in joyous triumph at disease and the doctors.

Put on two pairs of thick woolen stockings, but keep this to yourself ; go to some honest son of Saint Crispin, and have your measure taken for a stout pair of winter boots or shoes ; shoes are better for ordinary, every day use, as they allow the ready escape of odors, while they strengthen the ankle, accustoming them to depend on themselves. A very slight accident is sufficient to cause a sprained ankle to an habitual boot wearer. Besides, a shoe compresses less and hence admits of a more vigorous circulation of blood. But wear shoes when you ride or travel. Give direction, also, to have no cork or India rubber about the shoes, but to place between the layers of the sole, from out to out, a piece of stout hemp or tow linen, which has been dipped in melted pitch. This is absolutely impervious to water—does not absorb a particle—while we know that cork does, and after a while becomes ‘soggy’ and damp for weeks. When you put them on for the first time, they are as ‘easy as an old shoe,’ and you may stand on damp places for hours with impunity.

LIEUT. MAURY—THE CABLE.

Lieut. MAURY said of the cable recently in a public lecture : “ Experiments are now making by scientific men on both sides of the Atlantic, with a view to the laying down of another

ocean telegraph, and the lecturer, as surely as he expected to live two or three years, expected to hear the ticking of the Greenwich clock in the Observatory at Washington.”

Many persons think that a cable cannot be constructed, that will work successfully, between the two hemispheres. For ourselves, we have an abiding faith in the predictions of men as eminently scientific as Lieut. Maury, Prof. Morse, and others. A telegraphic cable will yet be laid, and worked successfully, between some points, connecting the old and new worlds.

Our faith is as strong as that of the *Southern Homestead*, from which we cut the above. A cable will be laid. It will discourse between the old world and the new, and we shall hear it talk, and profit by it.

ANTI-TOBACCO TRACTS.

We have received from Rev. George Trask, Fitchburg, Mass., a series of tracts on the above subject. That many of our young men are indulging in use of tobacco, that will be a source of very sad regret to them in after life, there cannot be a doubt. We advise such, or their friends, to apply to Mr. Trask at Fitchburg for some of these tracts. Their cost is but trifling, if anything, and they condense the results of investigation into the effects of tobacco in the human constitution, which would prove valuable to persons who have not the tobacco habit hopelessly fixed upon them, and are willing to consider, before they become hopelessly wedded to a habit so injurious.

LOCAL NEWSPAPERS.

How apt people are to grumble about things that are cheap and easy to obtain—that are rather urged upon them.

The county paper is an example. Oh, say the inhabitants, it is a slim affair; it contains but half as much as the city papers, in proportion to its price; we do not think much of it. You do not, do you? Why, the county paper is the greatest educator in the land. No man can expend a dollar or two so beneficially to his family as by taking his own county paper. Take that if you take no other. Take it till you give the publisher enough to make it better, if it is not as soon as you wish. N.

RECIPES, &c.—SELECTED.

CURING OF HAMS AND BACON.—It is simply to use the same quantity of common soda as saltpetre—one ounce and a half of each to the fourteen pounds of ham or bacon, using the usual quantity of salt. The soda prevents that hardness in the lean of the bacon, which is so often found, and keeps it quite mellow all through, besides being a preventive of rust. This receipt has been very extensively tried amongst my acquaintance for the last fifteen years, and invariably approved.

HYPOCRITE CAKES.—Take a cup of sour cream, two eggs, a piece of butter the size of a butternut, a half teaspoonfull of saleratus, wet hard, cut in squares, rolled thin; fry in hot lard to a nice brown, put in a deep dish, pour over a gravy made of a cup of sugar, one of butter, two of hot water, with half a nutmeg grated over it. Send it to the table hot, in a covered dish. This makes a nice dish for dinner, in place of a pudding.

A VERY PLEASANT PERFUME, and also preventive against moths, may be made of the following ingredients: Take of cloves, caraway seeds, nutmeg, mace, cinnamon, and Tonquin beans, of each

one ounce; then add as much Florentine orris root as will equal the other ingredients put together. Grind the whole well to powder, and then put it in little bags, among your clothes, &c.

MOCK PRESERVED GINGER.—Boil small, tender, white carrots, scrape the outside and remove the hearts; let them soak in soft water, changing it every day till the vegetable flavor has left them. Take out and weigh. To every pound, take one quart of water, two pounds of loaf sugar, two ounces whole ginger, and the rind of one lemon; simmer fifteen minutes every day till the carrots are clear. When nearly done, add a little red pepper.

POTATOE CHEESE.—Select good, white potatoes; boil them, and when cold, peel and reduce to a pulp with a rasp or mortar; have it perfectly smooth and fine. To five pounds add one pint sour milk and a little salt; knead it well and let it stand covered for three or four days, according to the season; knead them again, make into cheeses, and place in baskets or sieves, and dry in the shade. These cheeses will keep for any length of time in a covered jar, in a dry place.

BRAN YEAST.—Take a quart or two of bran in a keettle, with a teaspoonfull of salt; pour on hot water till it is thick as mush; let it stand over night, if in cold weather, by the stove. In the morning, when it has risen, and seems very spongy, strain it and take the liquor to mix your bread, adding water, if necessary; mix the bread and let it stand to raise before moulding it into loaves; then let it rise again in the pans.

To Give BRILLIANTY TO THE EYES.—Shut them early at night and open them

early in the morning, and let the mind be constantly intent upon the acquisition of useful knowledge, and the exercise of benevolent feelings.

MILK YEAST.—In case you should get out of yeast and are hurried, make milk yeast. Take one pint new milk, one teaspoon of salt, tablespoon of flour stirred in; stand it in a kettle of water, by the stove, and keep it lukewarm all the time. When very light, add lukewarm water; make into loaves or biscuit, and let them rise by the fire before cooking.

A STORY FOR BOYS.

We cut the following from the *Hampshire Gazette*, without knowing or caring whether it is original with that paper or not. It is a good story for boys, and for their mothers' also; and that is enough for our purpose. It is not necessary that a boy should be dressed in new and superfine, but if neatly mended up, and neat in his personal appearance, perfectly cleanly, it is a mighty commendation with all sensible men.

"When I was six years old," says a well known merchant, "my father died, leaving nothing to my mother but the charge of myself and two young sisters. After selling the greater part of the household furniture she had owned, she took two small upper rooms in W—— street, and there, by her needle, contrived in some way—how, I cannot conceive, when I recollect the bare pittance for which she worked—to support us in comfort. Frequently, however, I remember that our supper consisted simply of a slice of bread, seasoned by hunger, and rendered inviting by the neat manner in which our repast was served, our table always being

served with a cloth, which, like my good mother's heart, seemed ever to preserve a snow-white purity."

Wiping his eyes, the merchant continued:

"Speaking of those days reminds me of the time when we sat down to the table one evening, and my mother had asked the blessing of our Heavenly Father on her little defenseless ones, in tones of tender pathos that I remember yet, and which, if possible, must have made the angels weep, she divided the little remnant of her only loaf in three pieces, placing one on each of our plates, but reserving none for herself. I stole around to her, and was about to tell her that I was not hungry, when a flood of tears burst from her eyes, and she clasped me to her bosom. Our meal was left untouched; we sat up late that night, but what we said I cannot tell. I know that my mother talked to me more as a companion than a child, and that when we knelt down to pray, I consecrated myself to be the Lord's and to serve my mother.

"But," said he, "this is not telling you how neatness made my fortune. It was sometime after this that my mother found an advertisement in the newspaper for an errand boy in a commission store in B—— street. Without being necessitated to wait and have my clothes mended, for my mother always kept them in perfect order, and although on minute inspection they bore traces of more than one patch, yet on the whole they had a very respectable air; without being obliged to wait even to polish my shoes, for my mother always kept a box of blacking with which my cowhides must be set off before I took my breakfast; without waiting to arrange my hair, for I was obliged to observe from

my earliest youth the most perfect neatness in every respect, my mother sent me to see if I could obtain the situation. With a light step I started, for I had a long time wished my mother to allow me to do something to assist her.

My heart beat fast, I assure you, as I turned out of W—— street into B—— street, and made my way along to the number my mother had given me. I summoned all the courage I could muster, and stepped briskly into the store, and made known the reason of my calling. The merchant smiled, and told me that there was another boy who had come in a little before me he thought he should hire. However, he asked me some questions, and then went out and conversed with the other boy, who stood in the back part of the office. The result was, that the lad who first applied was dismissed, and I entered the merchant's employment, first as an errand boy, then as a clerk, afterwards his partner, until his decease, when he left me the whole business, stock, &c. After I had been in his service some years, he told me the reason he chose me in preference to the other boy was, because of the general neatness of my person, while in reference to the other lad, he noticed that he neglected properly to tuck down his vest. To this simple circumstance has probably been owing the greater part of my success in business."

To cure deafness, tell a man you've come to pay him money. It beats acoustic oil all hollow.

Bidy, did you put any egg in this miserable coffee to settle it?

Yes mum, I put in four, jist for cause they were so bad I had to use the more of them.

ANOTHER, FOR BOTH GIRLS AND BOYS.



THE foregoing story reminds us of a piece of family history, that fell under our own observation. Its commencement was twenty years ago. In a village in Western New York was a family consisting of father, mother, a daughter of perhaps fifteen years, and two sons, who might have been five and seven years of age.

On our first acquaintance with this family, the father had been an invalid, unable to do anything for the maintenance of the family for a long time. Poverty had come upon them of course. Yet they struggled on, the mother and daughter doing all that could be done, to maintain a respectable appearance, and to secure the necessaries of life. But soon the father, after years of suffering, sunk into his grave. The mother, kind, amiable, and hitherto efficient, always devoted to the welfare of her children, soon followed. It must be painful indeed to a mother to leave a daughter and two little sons so apparently helpless and so entirely unprovided

for. But this mother died rejoicing. God could provide for her orphans, and she was sure he would.

But what must be the feelings of a sister, left alone in charge of two young brothers, the rent of the cottage unpaid, not a relative in the world to look to, nothing but the most ordinary attire that she could call her own. The names of these orphan children were Susan, William and Charles. They were left among a generous, kind-hearted people. Aid was of course offered, and we believe was, to some small extent, accepted. But Susan had been educated by sensible parents, had learned much that was useful, was industrious, understood economical house-keeping on a small scale perfectly, could make a little go a great way, all of which was a wonderful help in those dark days.

Kind as the people of that village were, Susan had no idea of relying on any but herself. She was a good seamstress—had been trained to the use of the needle from necessity. She was ingenious also—could make up almost any garment, if cut for her, and soon learned to cut for herself. She was not long in deciding that these younger brothers were not to be turned over to the care of others. Her shears and needle were to maintain her and to educate them. For years the shears and needle were industriously plied. Susan was reputed a good girl. Every one respected her unselfish devotion to the brothers, and her generosity even, for she always had a mite to spare, after maintaining herself and keeping William and Charles at school, whenever the calls of charity were presented. She was contented with a cheap pew at church for herself and brothers, but

would have been unhappy with none, or to be crowding others in theirs.

Previous to her mother's death, Susan had become a member of the leading church in that place. She had a religion that was *practical*. It ran into all the affairs of life. It was this perhaps more than any thing else that sustained her in trials, and that gave her such a controlling influence over the minds of her brothers.

Not less than twelve years were they kept with her; their clothes were sometimes patched, but were neat; the living was frugal, but it produced good results. Better looking persons than Susan and her brothers, more fully developed, or more active, are seldom seen; and if you were to meet with them to-day, you would see not the least symptom of their having been reared in poverty, and by hard labor; but on the other hand, you would witness an ease of manners, a consciousness of worth, a self-reliance, and a just estimation of whatever is true and good, that would lead you to suppose that they had always lived as comfortably and as independently as they now do.

But we must tell our little readers about the change in their position, which we have already intimated. William went early to a trade, and succeeded as boys educated in a frugal way, are apt to do. Charles followed his brother's example, and did well also. After saving a few hundred dollars, they invested in city lots in one of our western cities. These lots soon rose in value, but this did not turn their heads, as it does some people's. They kept on with their business, earned more money, and still invested in land. The land still rose in value, and the income

from their business still increased. They were true-hearted, honest men, that every body can entrust their business with. The times for the last twelve months have been hard with them, but with their caution and energy, there is not the least fear but that they will weather the storm, and come out rich.

And do the children suppose they have forgotten Susan in their prosperity? Not at all. Both of them have fine apartments in their houses fitted up with every comfort on purpose for her; and there Susan is, some of the time with one, and some with the other, a sort of queen mother to their young wives; and what the children will perhaps think singular, though we do not, is, that having now seen her orphan brothers safely through the perils of a tender age, having so long devoted her energies unselfishly to their good, and finding them so abundantly able to take care of themselves, she has now betaken herself to looking after other orphans. Her brothers are proud of her, and they are grateful. Besides having made ample provision for her support, independently of any reverses that may befall them, they tell her to draw on them for whatever she wants to expend in charity, that all her drafts shall be honored; and so she is now spending much of her time in caring for the poor and needy; and is as happy a woman as could be found, the world over.

And now what will the children say is the moral of all this? If Susan, now fairly through with all anxieties about herself and her former charge, were asked for the moral of her history, we think she would give it in these words: "Trust in the Lord, and do good; so shalt thou dwell in the land,

and verily shalt thou be fed;" and we have no doubt she would say that she had a thousand times been comforted with this promise, when it was not easy to see whence pressing wants were to be supplied.

In her days of poverty and toil you would have seen Susan often consulting her chart, as above, while her wide-awake brothers were off at their sports, as below, or at their school.



For our own part, we like the old Greek notion, which, though they were heathen, was not heathenish, but was human, if not Christian—"God helps those who help themselves."

The best way of trusting Divine Providence is to *trust*, and to *work*; to *straighten up* under trials, and not go *bowed down* afflicting every body with our troubles; to believe that Providence will order all things well, and then to make ready for every emergency.

If Susan had not kept up a cheerful, resolute spirit, and trusted somewhat in her needle, while she trusted in Providence, her brothers might not have had clothes to appear in at Church, or at School, or anywhere but with the vicious; and they might have been to-day

sawing marble, or sewing boots, and eating salt beef twice a week for a luxury, in state's prison, and she herself a burthen to a second cousin or a great uncle.

YET ANOTHER FOR THE CHILDREN.



ON Christmas day—what could we do better on such a day—we went to a Sabbath school celebration, where some three hundred children are gathered and instructed every Sabbath morning and afternoon. It is in one of the worst parts of this city. Such a contrast between the smiling faces there, and the squalid countenances of the children thereabouts in the street ; such neatness of dress and perfect cleanliness on the one hand, and such filth and profanity on the other ; such intelligent faces inside of that school-house and such stupid looking faces outside, oh it was enough to make one's heart rejoice to see what Sabbath school instruction is doing for the poor and neglected children of this city.

We have not space to give you a very full account of the exercises. Suffice it to say, that the children sung hymns,

declaimed from the stage, spoke dialogues, heard speeches, ate cakes and frifits, and had altogether a good time of it. It is truly cheering to see the evidence of improvement given by them.

This is an old school. It has been in steady operation a long time, forty years or more, we believe. Thousands of children, who would have been left to ignorance and vice but for this school, have here been educated, and many are now among the best men and women in the land. The school is at 85 William street. It is sometimes called the old 85 school.

The teachers do a great deal to keep it up, not only by leaving their own comfortable homes to teach on Sunday, but by visiting the children week days, encouraging their attendance and assisting their parents to clothe them for the Sunday school. Many charitable people give money and clothes to carry out the object. The teachers have no pay for what they do ; and yet to a generous mind, it is the best pay in the world, to witness the fruits of their labor—so many gathered from the haunts of vice and degredation and made happy and useful. In fact, we believe nothing pays better than to help the poor and to instruct their children.

In the course of the meeting a story was told, the facts of which were known to be true. It was this :

A large boy in a Sabbath school in Philadelphia became so bad, that the teacher begged the Superintendent to turn him out. "No," said the Superintendent, "if we do not take care of that boy nobody will." "But," said the teacher, "he swears, gets drunk, fights, does everything bad." The Superintendent insisted upon keeping him in the school. "Hold on," said he, "keep

trying, and you will make a good boy of John yet." The teacher yielded, and the boy was kept.

It turned out as the Superintendent said. John left off swearing, drank no more rum, cleaned himself up, attended the school regularly, and was always punctual. Soon the teacher had such confidence in him that he sent him out to bring in other boys.

All seemed to be going on well with John, till one day the teacher was passing the narrow lane where he lived, and what was his surprise to see John flogging another boy, "letting in," as if he would knock the breath out of him.

John saw the teacher and began to explain. The teacher was not willing to hear him, said "he had thought he was a reformed boy, but now saw he was not. John begged to be heard.

"Well" said the teacher, "there can be no apology for this fighting, but I will hear you."

Said John, "six of us boys in this lane agreed that we would not drink rum, nor fight nor swear; and that if any one of us did either, he should have six 'thumps,' two from the one that caught him at his old tricks, and one from each of the other four. Now this boy got drunk. I found him in the gutter. Consequently, after he got sober I owed him two thumps and the other four owed him one thump each. But they said I should give him the whole six, and that was just what I was doing when you saw me. I thought, if the 'thumps' were sure to come, it would keep us all from doing bad things. But if it was wrong, I will not do it again."

Now there remained a hope that John was still a reformed boy. It is certain that a boy who swears, and drinks rum, and gets into the gutter, deserves to be

"thumped." We should not like to be the one to give the "thumps," because we believe more in kind words than in hard knocks; and yet we are by no means sure that John was not right. There is something in his idea about its making them afraid to do wrong.

MINISTERING SPIRITS.

"It is a beautiful belief,
That ever round our head
Are hovering, on noiseless wing,
The Spirits of the dead.

It is a beautiful belief,
When ended our career,
That it will be our ministry
To watch o'er others here;

To lend a moral to the flower,
Breathe wisdom on the wind,
To hold commune at night's lone hour,
With the imprisoned mind;

To bid the mourner cease to mourn,
The trembling be forgiven;
To bear away from ills of clay,
The infant to its heaven."

EARLY RISING.

Health and long life are most universally associated with early rising; and we are pointed to countless old people, as evidences of its good effects on the general system. Can any of our readers, on the spur of the moment, give a good and conclusive reason why health should be attributed to this habit? We know that old people get up early; but it is simply because they can't sleep. Moderate old age does not require much sleep; hence, in the aged, early rising is necessary, or a convenience, and is not a cause of health in itself. There is a large class of early risers, very early risers, who may be truly said not to have a days health in a year—the thirsty folks, for example, who drink liquor until midnight, and rise early to get more! One of our earliest recollections is, that of "old soakers" making their "devious way" to the grog-shop or the tavern bar-room, before sunrise, for their morning grog. Early rising, to be beneficial, must have two concomitants: to

retire early, and on rising, to be properly employed. One of the most eminent divines in this country rose by daylight for many years, and at the end of that time became an invalid—has traveled the world over for health, and has never regained it, nor ever will. It is rather an early retiring that does the good, by keeping people out of those mischievous practices which darkness favors, and which need not here be more particularly referred to.

Another important advantage of retiring early, is that the intense stillness of midnight and early morning hours favor that unbroken repose which is the all-powerful renovator of the tired system. Without, then, the accompaniment of retiring early, "early rising" is worse than useless, and is positively mischievous. Every person should be allowed to "have his sleep out;" otherwise, the duties of the day cannot be properly performed, will be necessarily slighted, even by the most conscientious.

To all young persons, to students, to the sedentary, and to invalids, the fullest sleep that the system will take, without artificial means, is the balm of life—without it there can be no restoration to health and activity again. Never wake up the sick or infirm, or young children of a morning—it is barbarity; let them wake of themselves, let the care rather be to establish an hour for retiring, so early, that their fullest sleep may be out before sunrise.

Another item of great importance is, do not hurry up the young and weakly. It is no advantage to pull them out of bed as soon as their eyes are open, nor is it best for the studious, or even for the well, who have passed an unusually fatiguing day, to jump out of bed the moment they wake up: let them remain,

without going to sleep again, until the sense of weariness passes from the limbs. Nature abhors two things: violence and vacuum. The sun does not break out at once into the glare of the meridian. The diurnal flowers unfold themselves by slow degrees; nor fleetest beast, nor sprightliest bird, leaps at once from its resting-place. By all of which we mean to say, that as no phisiological truth is more demonstrable, than that the brain, and with it the whole nervous system, is recuperated by sleep, it is of the first importance, as to the well-being of the human system, that it have its fullest measure of it; and to that end, the habit of retiring to bed early should be made imperative on all children, and no ordinary event should be allowed to interfere with it. Its moral healthfulness is not less important than its physical.—Many a young man, many a young woman, has made the first step towards degradation and crime, and disease, after ten o'clock at night; at which hour, the year round, the old, the middle-aged, and the young, should be in bed: and then the early rising will take care of itself, with the incalculable accompaniment of a fully rested body and a renovated brain. We repeat it, there is neither wisdom, nor safety, nor health, in early rising in itself; but there is all of them in the persistant practice of retiring to bed at an early hour, summer and winter—*Hall's Journal of Health.*

RISKS OF TRAVELING.

It is strange that we as a people, with our habits of calculation, do not practically regard the cost of traveling. Life, which is the most precious outlay, seems not to enter, as an element, in our calculations; and yet there is no people who so cherish the adage of "time be-

ing money." But strange to say, with all our love for one, we show a recklessness of the other bordering on insanity, and not less so even when life is the measure of time lost. We do not propose to deplore the past, but simply to consider the question of the costs and risks of traveling. We are a traveling people, almost nomadic, and with this characteristic, it would seem, as with the Bedouins, the consequence followed that every railroad and steam company had their hands against us, and ours against them—mutually encouraging recklessness of life and property. Particularly is this the case in our Atlantic steamship experience. Let us prove this by figures. Our Atlantic steamship traveling practically commenced with the first voyages of the steamships *Sirus* and the *Great Western* in 1838. From that year to the present, 1858, it is estimated that on an average fifteen thousand persons have annually crossed the Atlantic ocean in steamships, or three hundred thousand in the whole period. In this same period we have had thirteen steamships with *three thousand* persons lost; or, of the whole number who have crossed the Atlantic by steam, *one in every hundred* has been lost. Nor was the greater part of this loss in the infancy of our steam navigation. We have in the past four years lost three transatlantic steamships, with *twelve hundred lives*; or, allowing twenty-four thousand as the annual number crossing the Atlantic to and from New York, in this period, *one in every eighty have been lost*.

It may be said that these losses have many of them been unavoidable. But who believes it? And again it may be asked how is it to be helped? In this way: As surely as "necessity is the mother of invention," if passengers

would only go in steamships with watertight compartments, fire-proof, and under good discipline, we should have in five years every steamship from this port with these qualities—and then the loss, instead of being one in sixty, would be one in ten thousand.

To show the great risk of steamship traveling over railroad traveling, let us examine the comparative risk per mile to each passenger. It appears from the best statistics that in the last four years the risk to each passenger of being killed in going one mile was :

By railroad in France,	1 in	100,000,000
" England,	1 in	65,000,000
" " New York,	1 in	47,000,000
By Atlantic steamships,	1 in	240,000

These figures protest strongly against the management of some at least, of our Atlantic Steamship Companies. According to these statistics a passenger could go from here to California by railroad with the same risk as to travel five miles in a steamship. Who will say that the unavoidable risks are in this ratio?

It is unquestionable that steamships can be made perfectly fire-proof; and if we obtain this safety in our warehouses, where there is no risk of life, why cannot we have it on the ocean, where equally valuable goods and helpless passengers are at risk? We venture to assert that a fire-proof steamship would always go full from this port while the memory of the *Austria* remains; and we believe that without this safety that hereafter the danger of life will enter into the calculation of the cost of a trip to Europe.—*New York Courier*.

BE SPARING OF DRUGS.

DR. HOLMES, whose reputation as a physician runs neck and neck with his literary popularity, in his valedictory address to the medical students of Harvard University, delivered recently, gives

the following, we doubt not, judicious advice to the medical students who were about to graduate :

" With regard to the exhibition of drugs as a part of your medical treatment, the golden rule is, *be sparing*. Many remedies you give would make a well person so ill that he would send for you at once if he had taken one of your doses accidentally. It is not quite fair to give such things to a sick man unless it is clear that they will do more good than the very considerable harm you know they will cause. Be very gracious with children, especially. I have seen old men shiver at the recollection of the rhubarb and jalap of infancy. You may depend upon it that half the success of homœopathy is due to the sweet peace it has brought into the nursery. Between the gurgling sound of loathsome mixtures and the saccharine deligh essence of minute globule, what tender mother could for a moment hesitate ? "

HOW TO STOP BLOOD.

MANY a death has resulted from an accident, when a little skill in the treatment of a wound might have prevented a sacrifice of life. In the excitement attendant upon an injury of a fellow-being, we are apt to lose the presence of mind necessary to a proper consideration of the means by which relief can be rendered ; and thus the necessity of making ourselves perfectly familiar with the manner in which wounds and injuries should be treated in cases of emergency, for the knowledge of the proper means to be adopted for the stoppage of bleeding from a wound may be of service to us when we least expect it.

First, if the blood flows out in a stream, notice particularly whether the stream is an even, steady, or a jerking, or a pulsating stream ; if it is even and steady, the probability is it is from a vein, particularly if the color of the blood is a dark red. Bleeding from

an artery is peculiar, the blood being of a light scarlet color ; the stream comes in that jerking manner which is seen when a fire engine is playing upon a high building. To stop the flow of blood in a vein, first close the wound with the hand firmly, then fold up any cloth, tow, flax, or leather, and make into a hard pad, an inch thick, at least large enough to cover the entire wound ; bind over this firmly any bandage, handkerchief, or strap, or even the bark of a tree ; raise the wounded part higher than the body of the patient ; keep him quiet ; if he has bled a large quantity, give him a little stimulant drink, and send for the doctor.

If the bleeding is from an artery, take your handkerchief, tie it around the part between the wound and the heart ; put a strong stick around the handkerchief ; give it two or three twists, and you will stop the blood, if you have made it tight enough. In all other respects the same treatment as above.

In all small wounds, merely elevating the part higher than the body, and retaining it so for a short time, will arrest the bleeding.

For bleeding at the nose, apply ice to any part of the body, moving the ice around ; it is best to apply it to the arm-pits, nape of the neck, &c. Keep the patient quiet; do not let him cough, or bleeding will return.—*Baltimore American.*

How can Hens best be kept so as to Procure Eggs in Winter.

BUILD a commodious hen house upon some plan, only that there be a roosting apartment, a place for feeding, with boxes for nests. A good plan is to build in the shape of a parallelogram,

with the roosting place across one end. The central portion can be used for feeding, the boxes for nests being placed around the sides of the building, with a small place between them and the wall, that the hens may enter the nests on the back side. Build the house either of stone, wood or other material, as may be thought best; but let it be warm and comfortable in the coldest weather, and so made that it can be well ventilated. Procure some of the large Asiatic breeds, as I have found, by my experience, that they will lay in winter when the common varieties will not, with the same treatment. But the person who expects his hens to lay much in summer, after laying all winter, will be disappointed. Give them as great a variety of food as possible, such as corn, buckwheat, oats, barley, &c., with pure water, daily. Give them fresh meat once or twice a week, or oftener, if convenient, with an occasional feed of boiled potatoes or apples. In short, make their feed as near as possible what it is in summer, and not forget to give them a free supply of oyster shells pounded fine, or lime and sand. Mix lime and sand as for plastering a house, let it dry and place a box filled with it in one corner of the hen-house, and it is surprising how fast it will disappear.—Hens will lay some in winter without being to all this trouble; they must have good, comfortable quarters. There are other advantages from having a good hen-house aside from hens laying in winter. Two or three wagon loads of good home-made guano, every year, will soon pay the expense, and help to raise corn to feed them. And then, again, fresh meat cannot always be procured. They will lay if they have plenty of corn; and as this contains a large portion of oil or fat, it

may perhaps be substituted for meat to some extent.—*Ex.*

AIR AND SUNSHINE ON LONGEVITY.

A WRITER in one of the Medical Magazines urges that the more out-door air and cheery sunshine a man can use the longer he will live. Go along any of the fashionable streets of New York, says the writer, and you will find not less than three, and often six distinct contrivances to keep out sunshine and gladness.—First, the Venetian shutter on the outside; second, the close shutter on the inside; third, the blind which is moved by rollers; then there are the lace curtains, the damask or other material, &c. In the train comes the exclusion of external air by means of a double sash, and a variety of patent contrivances to keep any little stray whiff of air from entering from the bottom, sides and tops of the doors and windows. At this rate, we shall dwindle into Lilliputs, if we do not die off sooner.

TO MAKE A CHOWDER.

1st. Procure a hard-fleshed fish, like a striped bass—than which nothing is better—one of six pounds will be sufficient for an ordinary family. Clean the fish in the coldest well water; split it from head to tail, and cut it then into pieces, half as large as your hand.

2d. An old-fashioned round-bottomed pot is indispensable.

3. Take half a pound of salt pork, slice it and fry it in the pot; then remove the pork, leaving the fat.

4th. Make a layer in the pot of pieces of fish; then season this with a little salt, red and black pepper, and a little (only a little,) ground cloves and mace, on this sprinkle a small quantity of chopped onions, and a part of the fried pork chopped or cut into fine pieces.

5th. Cover this with a layer of split crackers.

6th. Another layer of fish, seasoning, chopped onions, and pork, as above.

7th. Another layer of cracker, and so continue till all the fish is used, letting the top layer be of crackers.

8th. Pour into the pot just water enough to cover the whole, set it on the fire and let it simmer half an hour or so till the fish is tender to the touch of a fork. Great care should be taken that it does not come to a hard boil, but keep it at just the boiling point. Then remove the fish, crackers and all, with a skimmer, to a deep dish, leaving the gravy in the pot.

9th. Thicken the gravy with pounded crackers, add to it the juice of a lemon, half a tumblerful of good claret, and if it needs more seasoning, a little red and black pepper to your taste.

10th. Pour the gravy over the fish and crackers and all; garnish the dish with slices of lemon, serve warm, eat, and return thanks.—*Massachusetts Ploughman.*

WEIGHT OF A MILLION DOL- LARS IN GOLD.

In answer to the question "what is the weight of a million dollars in gold?" an officer of the mint calculates as follows: The weight of one million of dollars of United States currency in gold is 53,750 troy ounces. This makes 4,479 pounds, 2 ounces—or nearly two tons and a quarter, reckoning 2000 lbs., only to each ton. As weighty as this is, we have no doubt that, if the amount were offered to anybody who would lift it, there would be enough persons found ready to break their necks in the vain attempt.

He is the best educated man, who is the most of a man, and is best able to accomplish the great ends of life.

TOMATO WINE.

Select and mash well ripened fruit; press out the juice; add one pint of water and one pound of sugar to each quart of juice. Set away in a partially filled vessel to ferment similarly to grape wine. After fermenting sufficiently put in tight kegs and keep in a cool dry cellar until spring, when it may be carefully drawn off and bottled, adding a small piece of root ginger to each bottle. It will be found difficult to distinguish it from grape wines.

FLOWERS IN AUTUMN.

BY MARY EGERTON.

The Autumn sun is shining,
Gray mists are on the hill;
A russet tint is on the leaves,
But flowers are blowing still!

The little flowers are smiling,
With chilly dew-drops wet,
Are saying with a spirit voice—
"We have not vanished yet!"

"No, though the spring be over;
Though Summer's strength be gone;
Though Autumn's wealth be garnered,
And winter cometh on;

"Still we have not departed,
We linger to the last,
And even on early winter's brow
A cheerful ray will cast!"

Go forth then youths and maidens,
Be joyful whilst ye may;
Go forth then, child and mother,
And toiling men grown gray.

Go forth, though ye be humble,
And wan with toil and care;
There are no fields so barren,
But some sweet flower is there!

BOOK NOTICES, ETC.

DORA DEANE, or THE EAST INDIA UNCLE; and MAGGIE MILLER; or, OLD HAGER'S SECRET. By Mrs. Mary Holmes, author of "Lena Rivers," "The Homestead on the Hill-side," "Meadow Brook, or Ross Lee," "Tempest and Sunshine," etc., etc. New York, C. M. Saxton, 25 Park Row. 1859. 474 pages, 12mo.

This, we judge from a cursory perusal, is made up of two stories, entirely distinct; the first adapted to show the connection between virtue and happiness, and the last to portray in vivid colors, the great truth that sin and misery are inseparably connected, that evil doing is inevitably followed by punishment. The stories are told in a pleasant style, and the moral is such as we think all must approve.

THE MINISTRY OF LIFE. By Maria Louisa Charlesworth, author of "Ministering Children," etc., etc. 465 pages, 12mo. New York, Carlton & Porter, Sunday School Union, 200 Mulberry street.

This is a work for the Sabbath School, and for

the Book Table of the Christian family. Its main purpose is to impress Christian minds with the fact, that they are to find their happiness, not in selfish indifference to others' feelings and condition, but in those unselfish efforts to promote the highest welfare of mankind, which are the legitimate outflow of the life of Christ in the soul. Beyond all question it is an excellent book, one that may be read with profit by all children, and still more by all adults. It is the very book for the times. No man, woman or child can read it thoughtfully without being made better.

OLLENDORFF'S METHOD OF READING SPANISH.

Appleton & Co.

Our proximity to the Spanish race, in Mexico, Central America, the West India Islands, and the South American continent, together with the increasing intercourse between that race and ours, renders it exceedingly desirable for many among us to be acquainted with their language. Ollendorff's Method is the best we have ever seen for assisting one to acquire a knowledge of Spanish, and to speak it readily. We have used it, and from our own experience can recommend it to such as desire to learn that language. The Spanish is a beautiful language, exceedingly regular in its formations, and with a little help from a teacher, in the pronunciation, can be readily acquired.

NORTON'S LITERARY LETTER, containing American Papers of interest, upon Numismatics and Medals, and a catalogue of the largest collection of rare and valuable works relative to America ever offered for sale. Charles B. Norton, Agent for Libraries. Appleton Building, New York, 1859.

Engravings of old American coins, descriptions of medals throughout our colonial and national history, and the titles of rare and valuable books, relating to this country, fill the pages of this circular. It was our lot to be in Europe, with Mr. Norton, in 1853, and we can testify to his zeal and industry in collecting works not to be found on the shelves of booksellers, but wanted in libraries, as settling important facts in our history. Mr. N.'s stock must be valuable to all who are collecting works for public libraries, or private, if designed to be extensive, and to cover the ground of American history.

THE NEW YORKER: a complete Mirror of the World, Literature, Romance, Society, Business, and News. C. Mathews, Editor and publisher, 107 Fulton street, New York.

This is one of the many weeklies emanating from this city. It is now commencing its seventh volume, in an entirely new dress, and is in every way greatly improved. It has long been an excellent family newspaper, of unexceptionable moral tendencies, adapted to please and to instruct. We have no doubt it will hereafter more than realize any expectations its past course may have created.

THE AMERICAN MERCANTILE NEWS AND MANUFACTURERS' REPORTER.—This is the title of a new weekly just commenced in this city, the first two numbers of which promise well.

THE ATLANTIC MONTHLY for January comes to us with its usual variety of good things well said. It is unquestionably at the head of its class. Already its influence is felt throughout the country, and is sensibly elevating the character of our periodical literature. Boston is too slow for a daily, but can beat the world in a Monthly.

THE WORKING FARMER.—Our readers already

know our opinion of this journal. Its articles are not as short as those of some others; nor does it claim as much originality, but in our judgment it puts forth as much important agricultural truth. For \$2 in advance we send this and ours.

THE SEVENTH ANNUAL MEETING.—The United States Agricultural Society will be held in the Lecture Room of the Smithsonian Institution, at Washington city, on Wednesday, the twelfth day of January, 1859, when the election of officers will be held, and the business required by the constitution of the Society will be transacted. Officers and Members of the Society are respectfully notified to attend, and a cordial invitation is extended to State and other Agricultural Associations to send Delegates, that there may be a general representation of Agriculturists, "in Congress assembled," to protect and sustain their interests, acting as a national organization on such matters pertaining to Agriculture as may be deemed appropriate. Gentlemen from other lands who may be interested in the acquisition and diffusion of Agricultural knowledge, are also invited to attend, and to participate in the proceedings.

CORRECTIONS.—In Dr. Harper's valuable article in our Dec. No. instead of "ready soil," on page 717, line 14, read "sandy soil;" and for "cured by," page 720, line 26, read "cursed by." These printers want a great deal of looking after, and sometimes we editors get out of patience and let blunders go uncorrected.

MOUNT PLEASANT SCHOOL.—Seeing ourselves referred to in the advertisement of the above, we take occasion to say:—We have been long acquainted with that school, and with the assiduity and energy of its principal Teacher; and we assure any who may be interested to know that it *has been* and is a first rate school, where the boys are treated kindly, but are trained to those habits of industry and perseverance which they will need in after life, and are made to learn far more than in a majority of what may be called good schools.

TO OUR EXCHANGES.—We are not desirous of enlarging our exchange list, already numerous; but we will cheerfully send our work the coming year to all publishers who, with or without exchange, as they please, will announce the character and value of our work, its objects, size and style of publication, and its price, \$1 a year in advance to single subscribers; 90 cents for clubs of ten or more; and 80 cents for those of twenty and upwards, provided they send us a marked copy of the paper containing the notice.

GOLD needs no commendation from us, for almost everybody likes it, and we do ourselves, well enough to wish it may come safely, when our friends mail it to us; and we introduce the subject,

here to say, that we are daily receiving gold dollars from those states where small bills are not allowed, so loosely put into letters but half sealed, that we wonder at their running the gauntlet and reaching us. The best way to send gold by mail, if it must be done, (avoid it if you well can, lest it tempt somebody,) is to take a card of the thickness of the coin and of the size of the envelope; cut out an opening just large enough for the gold piece; insert it in the opening; paste a thin piece of paper on both the under and upper side, holding it in its place; and it will be less likely to tempt cupidity than in any other way we know of, and there will be no danger of its "falling out by the way."

A PRESENT TO FRIENDS.—Last year several of our readers ordered two copies of this work, one for themselves and one to be sent from the office to a son, a brother, or some friend in a different part of the country. A more delicate way of presenting a present to a distant friend cannot be devised. How many of our readers will send such a monthly remembrancer as our work would be to an absent relative or friend? It will cost but one dollar to be thus gratefully remembered once a month through the coming year. In all such cases, we will return a receipt for the money and send a duplicate to notify the receiver of the work that his year is paid for and by whom.

IMPORTANCE OF PROMPTNESS IN CORRESPONDENCE.—We have just received a notice from a gentleman but two or three days from us, that some six weeks ago he had sent money by mail for a year's subscription in advance, but has not received the work, nor heard from us. He probably enclosed gold (we judge so from the part of the country whence he hails) and it fell out or was picked out by the way, as it certainly never reached us. The postmaster here tells us that it is now too late to investigate the matter; that had we reported the failure within a week, naming the very day of mailing, there would have been a probability of finding where the money went. Now, we mean that persons sending us money shall receive an acknowledgement of it very promptly, either by a receipt returned, or what really is just as good, by receiving a number. If they do not, we wish them to let us know soon. Do not be alarmed about the uncertainties of the mail. We engage that money may be sent at our risk, if mailed with due care. The risk is but small; for, in our opinion, money, especially if in the form of bank notes, is transported as safely in the mail, as in the pocket of a friend, or even in our own pocket. Drafts, however, are safer in case of considerable amounts.

BUNDLES OR SINGLES.—Will not those of our subscribers, who take the only copy of this work that goes to their post office, make an effort to get two or three others to join them, that we may send in bundles? In that way their numbers will reach them with more certainty and in better order, and we shall get a consideration for lowering our price in the greater number sent out.

REASONS FOR FIXING OUR PRICE FOR THE FUTURE AT \$1.—Hard times, the low price of farm produce, the scarcity of money in the country, the convenience of the dollar for remittance in preference to any fractional sum, and a desire on our part to live by a large circulation at a small price, rather than the reverse.

A WORK OF THIS SIZE AND FORM, filled mostly with original matter, and the rest with selections made with care and pains-taking almost equal to that of original composition, cannot be sustained with a small subscription. With but a few thousand subscribers, ours would be a harder business than growing wheat at 40 cents a bushel. Farmers, consider this and give us a lift, while you are enjoying your winter's leisure.

OUR SUBSCRIPTION LIST is now filling up satisfactorily, fast enough, from present appearances, to compensate for our reduction in terms.

Every day brings us large clubs and many single subscribers from various parts of the country. We are beginning to be rewarded for our labor.

But then this is our harvest time, as summer and autumn are yours; and you will not envy us a good harvest, as we certainly would not you; and we here assure you, that all you send us, or cause to be sent, beyond a most reasonable compensation, shall be expended on this, your work.

Let us hear from you these first months of the new year; as we are confident you will; and are therefore commencing a new volume with more hope and courage, and a fuller determination to devote our energies earnestly to you, than ever before.

Fish Guano.—\$35 Per Ton.

The attention of Farmers and others is called to the FISH GUANO manufactured by the Long Island Fish Guano and Oil Works, at Southold, Long Island. It is composed of the *Bones* and *Flesh* of Fish, after extracting the oil and water, and has been thoroughly tested in England and France, and from testimonials received, is found to be equal to Peruvian Guano and other manures; is free from smell and not injurious to health. Price in bags, \$35 per ton. Pamphlets containing full particulars and testimonials may be had on application to

BRUNDRED & ROGERS,

Mar. 1y.

60 Pine street, N. Y.